EPA Question	Response	Records/Information Available
Section 1.0 - Respondent Information		
1. Provide the full legal, registered name and mailing address of Respondent.	Portland General Electric Company 121 SW Salmon Street Portland, OR 97204	
2. For each person answering these questions on behalf of Respondent, provide:		
Site Operator: Portland General Electric		
a. full name;	Arya Behbehani-Divers	
b. title;	Manager, Environmental Services	
c. business address; and	121 SW Salmon Street m/s 3WTCBR05 Portland, OR 97204	
d. business telephone number, electronic mail address, and FAX machine number.	Business Telephone Number: 503-464-8141 Electronic Mail Address: Arya.Behbehani-Divers@pgn.com Fax Number: 503-464-8527	
Site Consultant: URS Corporation		
a. full name;	Laura McWilliams, PhD, L.G. and Heather Patterson	
b. title;	Senior Geologist; Risk Assessor	
c. business address: and	111 SW Columbia, Suite 1500 Portland, OR 97225-5850	
d. business telephone number, electronic mail address, and FAX machine number.	Business Telephone Number: 503-222.7200 Electronic Mail Address: Laura_Mcwilliams@urscorp.com and Heather_Patterson@urscorp.com Fax Number: 503-222.4292	
3. If Respondent wishes to designate an individual for all future correspondence concerning this Site, please indicate here by providing that individual's name, address, telephone number, fax number, and, if available, electronic mail address.	Arya Behbehani-Divers Portland General Electric Manager, Environmental Services 121 SW Salmon Street - 3WTCBR05 Portland, OR 97204 Telephone Number: 503-464-8141 Fax Number: 503-464-8527 Electronic Mail Address: Arya.Behbehani-Divers@pgn.com	

EPA Question	Response	Records/Information Available
Section 2.0 - Owner/Operator Information		
4. Identify each and every Property that Respondent currently owns, leases, operates on, or otherwise is affiliated or historically has owned, leased, operated on, or otherwise been affiliated with within the Investigation Area during the period of investigation (1937 to Present). Please note that this question includes any aquatic lands owned or leased by Respondent.	Portland General Electric Company (PGE) is preparing separate 104(e) responses for properties within the Investigation Area. This response only applies to the Stephens Substation located at 1830 SE Water Avenue.	
a. Currently Owns	PGE currently owns the Stephens Substation. See the attached documents.	Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf
b. Currently Leases	Not applicable. PGE does not lease the property associated with Stephens Substation.	
c. Currently Operates	PGE currently operates the Stephens Substation. See the documents attached in response to Question 4a.	Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf
d. Currently otherwise affiliated with	Not applicable. Stephens Substation is not currently affiliated with other properties.	
e. Historically Has Owned	Not applicable. PGE currently owns the property associated with Stephens Substation.	
f. Historically Has Leased	Not applicable. PGE currently owns the property associated with Stephens Substation.	
g. Historically Has Operated	Not applicable. PGE currently owns the property associated with Stephens Substation.	
h. Historically otherwise affiliated with	Stephens Substation was historically associated with Station L. This response only applies to the Stephens Substation located at 1830 SE Water Avenue. Station L is addressed in a separate 104(e) response. See the documents attached in response to Question 4a, as well as Figure 1-2 in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15.	Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf Also see Question 15 Attachment Q15_1994-08_Phase III_SIR-Stephens.pdf
5. Provide a brief summary of Respondent's relationship to each Property listed in response to Question 4 above, including the address, Multnomah County Alternative Tax lot Identification number(s), dates of acquisition, period of ownership, lease, operation, or affiliation, and a brief overview of Respondent's		

EPA Question	Response	Records/Information Available
activities at the Properties identified.		
a. Relationship	Owner	
b. Address	1830 SE Water Avenue Portland, OR	
c. Multnomah County Alternative Tax ID #	The Multnomah County alternative tax ID number is R991030210; see the attached document (Q05c_Property Detail.pdf).	Question 5 Attachment Q05c_Property Detail.pdf
d. Date Acquired (leased)	The Stephens Substation property was purchased by the Oregon Water, Power, & Railway (OWP&R Co, a PGE predecessor company) on 25 March 1905 from the Land Company of Oregon. The Stephen Substation property was historically purchased as part of the Station L power plant property. See the documents attached in response to Question 4a. Station L is addressed in a separate 104(e) response.	See Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf
e. Period of Lease	Not applicable. PGE owns the property associated with the Stephens Substation.	
f. Period of Ownership, Lease or Operation	Ownership: 1905 to present. Operation: Sometime prior to 1924 to present. See the documents attached in response to Question 4a.	See Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf
g. Activities	PGE originally purchased the Stephens Substation parcel in 1905 in association with the Station L power plant. Based on the Sanborn maps (Q10_Sanborn Maps.pdf) attached in response to Question 10, the property was used for a car painting shop and car repairing shed from at least 1909 until at least 1924. From sometime after 1924 until sometime prior to 1945, PGE operated a synchronous condenser station on the property, which was associated with the Station L power plant. Historical Synchronous Condenser Purpose and Function: A synchronous condenser (sometimes called a synchronous compensator) is an AC motor distinguished by a rotor spinning with coils passing magnets at the same rate as the alternative current and resulting magnetic field which drives it. It is not attached to any driven equipment. Controlled by a voltage regulator, a synchronous condenser maintains a system's power factor by absorbing or supplying reactive power. It serves a similar purpose as a capacitor bank, but can be adjusted more continuously. A synchronous condenser needs periodic lubrication and internal cleaning, but is not filled with oil. Sometime prior 1945, the synchronous condenser was removed and the Stephens Substation, a distribution substation, was constructed on the parcel. The Stephens Substation has been in operation from sometime prior to 1945 to present. Substation Purpose: • Provide continuous electrical power to customers; and • Protect public and equipment from electrical and mechanical faults.	Question 10 Attachment Q10_Sanborn Maps.pdf

EPA Question	Response	Records/Information Available
	Substation Function: A distribution substation is a carefully engineered and crafted collection of high voltage equipment, which transforms higher sub-transmission voltage (57kv) to lower distribution voltage (11kv and 4kv). High voltage switches and circuit breakers allow the circuits to be safely opened for routine maintenance or to interrupt electrical faults. Automatic operation is achieved through control, protection, telemetry and communication systems located within the substation. As such, on-site activities are limited to maintenance, repair, and replacement of substation components as they are needed.	
6. Identify any persons who concurrently with you exercises or exercised actual control or who held significant authority to control activities at each Property, including:		
a. partners or joint ventures;	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, there are no partners or joint ventures that have exercised actual control or held significant authority to control activities at Stephens Substation.	
b. any contractor, subcontractor, or licensor that exercised control over any materials handling, storage, or disposal activity on the Property; (service contractors, remediation contractors, management and operator contractors, licensor providing technical support to licensed activities);	Environmental consultants that have designed and implemented environmental investigation and/or remediation efforts at Stephens Substation (as part of the environmental investigation and/or remediation efforts for Station L), include Sweet-Edwards/OMNI Environmental Services Inc., Hart Crowser Inc., Burlington Environmental (Chempro), and CH2M Hill. See response and the documents attached in response to Questions 15 and 21.	See all Question 15 Attachments Also see all Question 21 Attachments
c. any person subleasing land, equipment or space on the Property;	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, there are no subleases for land, equipment, or space on the Property.	
d. utilities, pipelines, railroads and any other person with activities and/or easements regarding the Property;	To the best of PGE's knowledge, after reasonable inquiry, utilities, pipelines, railroads, and other persons with activities or easements on the Stephens Substation are as follows: • On 11 June 1992, PGE granted the Oregon Museum of Science and Industry (OMSI) a sidewalk easement (outside of the security fence for the substation) and OMSI granted PGE a substation easement and building foundation & roof drain leader easement; see the document (Q07_1992-05-29 1992 OMSI Esmt.pdf) attached in response to Question 7. These easements are indicated with an "X" in the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • In conjunction with the Station L donation to OMSI, PGE and OMSI entered into an agreement for a common roadway easement (SE Water Ave) on 27 May 1987 in order for PGE to maintain access to the Stephens Substation; see the document (Q07_1987-05-06 PGE-OMSI Roadway Easement.pdf) attached in response to Question 7. Also see the document (Q4a_2006 Plat.pdf) attached in response to Question 4a.	See Question 4 Attachment Q04a_2006 Plat.pdf Also see Question 7 Attachments Q07_1992-05-29 1992 OMSI Esmt.pdf Q07_1987-05-06 PGE-OMSI Roadway Easement.pdf Q07_1998 Easement Public Walkway Utilities & Temp Const.pdf Q07_1998 ROW for Public Street.pdf Q07_2005 Easement for Drainage.pdf

EPA Question	Response	Records/Information Available
	• On 26 June 1998, PGE conveyed the deed for the right-of-way (SE Water Ave) to the City of Portland for a public street; see the document (Q07_1998 ROW for Public Street.pdf) attached in response to Question 7. Also see the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • On 26 June 1998, PGE granted the City of Portland an easement for construction and perpetual use by the public of a public walkway and utilities at the southwest corner of the Property (outside of the security fence for the substation); see the document (Q07_1998 Easement Public Walkway Utilities & Temp Const.pdf) attached in response to Question 7. This easement is shown in pink on the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • On 28 October 2005, PGE granted the Oregon Department of Transportation a permanent easement to construct and maintain drainage across the southeast tip of Property; see the document (Q07_2005 Easement for Drainage.pdf) attached in response to Question 7.	
e. major financiers and lenders;	Not applicable. None have been identified.	
f. any person who exercised actual control over any activities or operations on the Property;	To the best of PGE's knowledge, after reasonable inquiry, PGE personnel (see responses to Questions 6g and 6h), the consultants and contractors (see response Question 6b), the companies/persons with easements (see response to Question 6d) have exercised actual control over activities or operations at the Property. In addition, the City of Portland exercised actual control over the storm sewer line (now abandoned) referenced in the response to Question 13b, below.	
g. any person who held significant authority to control any activities or operations on the Property;	Multiple individuals have had authority within PGE to access and conduct activities on this property. Many are listed on the following documents: • Bullseye articles 1956, 1957, 1958, 1959, 1960, 1961, 1963, 1967, 1971, 1973 and 1980. • Organizational charts for the years: 1980, 1982, 1984, 1986, 1988, 1989, 1990, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, and 2005 • Distribution and System Planning information. • Management structure information 1982-2007. In addition, the consultants and contractors (see the response to Question 6b) have/had the authority to control activities or operations at the Property. As discussed in the response to Question 6d, OMSI exercises actual control over the sidewalk easement and the City of Portland exercises actual control over the public walkway and utilities easement. The City of Portland exercised actual control over the storm sewer line (now abandoned) referenced in the response to Question 13b below.	Question 6 Attachments Q06g_Bullseye articles.pdf Q06g_Distribution and System Planning Information.pdf Q06g_HRIC Structure Report 2008.pdf Q06g_HRIS Structure Info 1982-2007.pdf Q06g_Organizational Charts.pdf
h. any person who had a significant presence or who conducted significant activities at the Property; and	Multiple individuals have had authority within PGE to access and conduct activities at the Property during PGE's ownership. Many are listed on the documents attached in response to Question 6g: • Bullseye articles: 1971, 1973 and 1980. • Organizational charts for the years: 1980, 1982, 1984, 1986, 1988, 1989, 1990, 1993,	

EPA Question	Response	Records/Information Available
	1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, and 2005. • Distribution and System Planning information. • Management structure information 1982-2007. See the documents attached in response to Question 6g In addition, the consultants and contractors (see the response to Question 6b) conducted significant activities at the Property. As discussed in the response to Question 6d, OMSI exercises actual control over the sidewalk easement and the City of Portland exercises actual control over the public walkway and utilities easement. City of Portland exercised actual control over the storm sewer line (now abandoned) referenced in the response to Question 13b, below.	
i. government entities that had proprietary (as opposed to regulatory) interest or involvement with regard to the activity on the Property.	Not applicable. Except for the City of Portland, no government entities are known to have had a proprietary interest or involvement at Stephens Substation. As discussed in Question 6d, OMSI exercises actual control over the sidewalk easement and the City of Portland exercises actual control over the public walkway and utilities easement. The City of Portland exercised actual control over the storm sewer line (now abandoned) referenced in the response to Question 13b, below.	
7. Identify and describe any legal or equitable interest that you now have, or previously had in each Property. Include information regarding the nature of such interest: when, how, and from whom such interest was obtained; and when, how, and to whom such interest was conveyed, if applicable. In addition, submit copies of all instruments evidencing the acquisition or conveyance of such interest (e.g., deeds, leases, purchase and sale agreements, partnership agreements, etc.). Also provide all information and documentation regarding, but not limited to the following:	The OWP&R Co (a PGE predecessor company) purchased the Stephens Substation property on 25 March 1905 from the Land Company of Oregon; see the plats (Q04a_Plat.pdf, Q04a_2006 Plat.pdf) attached in response to Question 4a. To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the easements conveyed by PGE at the Stephens Substation: • On 11 June 1992, PGE granted the OMSI a sidewalk easement (outside of the security fence for the substation) and OMSI granted PGE a substation easement and building foundation & roof drain leader easement; see the attached document (Q07_1992-05-29 1992 OMSI Esmt.pdf). These easements are indicated with an "X" in the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • In conjunction with the Station L donation to OMSI, PGE and OMSI entered into an agreement for a common roadway easement (SE Water Ave) on 27 May 1987 in order for PGE to maintain access to the Stephens Substation; see the attached document (Q07_1987-05-06 PGE-OMSI Roadway Easement.pdf). Also see the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • On 26 June 1998, PGE conveyed the deed for the right-of-way (SE Water Ave) to the City of Portland for a public street; see the attached document (Q07_1998 ROW for Public Street.pdf). Also see the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • On 26 June 1998, PGE granted the City of Portland an easement for construction and perpetual use by the public of a public walkway and utilities at the southwest corner of the Property (outside of the security fence for the substation); see the attached	Question 7 Attachments Q07_1992-05-29 1992 OMSI Esmt.pdf Q07_1987-05-06 PGE-OMSI Roadway Easement.pdf Q07_1998 Easement Public Walkway Utilities & Temp Const.pdf Q07_1998 ROW for Public Street.pdf Q07_2005 Easement for Drainage.pdf Also see Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf

EPA Question	Response	Records/Information Available
	document (Q07_1998 Easement Public Walkway Utilities & Temp Const.pdf). This easement is shown in pink on the document (Q4a_2006 Plat.pdf) attached in response to Question 4a. • On 28 October 2005, PGE granted the Oregon Department of Transportation a permanent easement to construct and maintain drainage across the southeast tip of Property; see the attached document (Q07_2005 Easement for Drainage.pdf).	
a. any deeds and/or transfer information between Respondent and Dulien Steel Products;	Not applicable. Question 7a is relevant only to the Rivergate North site. Information regarding this question is given in the 104(e) response for that site.	
b. deed and title information for Parcels R971340160, R971340180, R971350100, R971350480, R941191230, R971340130 and R971340200;	Not applicable to the Stephens Substation.	
c. a complete copy of the Memorandum of Contract Book 1292 p.616 for parcel R941191230, dated September 5, 1978;	Not applicable to the Stephens Substation.	
8. If you are the current owner and/or current operator, did you acquire or operate the Property or any portion of the Property after the disposal or placement of hazardous substances, waste, or materials on, or at the Property? Describe all of the facts on which you base the answer to this question.	To the best of PGE's knowledge, after reasonable inquiry, PGE had no reason to know of the disposal or placement of hazardous substances, waste, or materials on or at the Property that may have occurred prior to PGE's ownership. To the best of PGE's knowledge, after reasonable inquiry, no site investigations relating to possible hazardous substances or materials were performed on the Property prior to PGE's acquisition.	
9. At the time you acquired or operated the Property, did you know or have reason to know that any hazardous substance, waste, or material was disposed of on, or at the Property? Describe all investigations of the Property you undertook prior to acquiring the Property and all of the facts on which you base the answer to this question.	To the best of PGE's knowledge, after reasonable inquiry, PGE had no reason to know of the disposal or placement of hazardous substance, waste, or materials on or at the Property prior to PGE's ownership. To the best of PGE's knowledge, after reasonable inquiry, no site investigations relating to possible hazardous substances or materials were performed on the Property prior to PGE's acquisition.	

EPA Question	Response	Records/Information Available
10. Identify all prior owners that you are aware of for each Property identified in Response to Question 4 above. For each prior owner, further identify if known: a. The dates of ownership b. All evidence showing that they controlled access to the Property c. All evidence that a hazardous substance, pollutant, or contaminant was released or threatened to be released at the Property during the period that they owned the Property.	OWP&R Co (a PGE predecessor company) purchased the Stephens Substation property on 25 March 1905 from the Land Company of Oregon; see the plats (Q4a_Plat.pdf and Q4a_2006 Plat.pdf, attached in response to Question 4a) attached in response to Question 4a. According to the attached 1901 Sanborn map (Q10_Sanborn Maps.pdf), the majority of the Stephens Substation property was inundated with water during high tide, but there were two small structures (one of which appears to be a hen house) on the property in the northeast corner of the property. The 1901 Sanborn map does not identify the owner of the property or the structures. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information regarding the Land Company of Oregon or other historical owner/operator activities on the Stephens Substation property. To the best of PGE's knowledge, after reasonable inquiry, no site investigations were performed on the Stephens Substation property prior to PGE taking ownership. To the best of PGE's knowledge, after reasonable inquiry, PGE has no knowledge of a hazardous substance, pollutant, or contaminant that was released or threatened to be released at the property prior to PGE's purchase.	Question 10 Attachment Q10_Sanborn Maps.pdf Also see Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf
11. Identify all prior operators of the Property, including lessors, you are aware of for each Property identified in response to Question 4 above. For each such operator, further identify if known: a. the dates of operation; b. the nature of prior operations at the Property; c. all evidence that they controlled access to the Property; and d. all evidence that a hazardous substance, pollutant, or contaminant was released or threatened to be released at or from the Property during the period that they were operating the Property	See the responses to Questions 4 through 7 and Question 10 and the documents attached in response to Question 4a. To the best of PGE's knowledge, after reasonable inquiry, PGE does not have knowledge of prior operations on the Property other than the information contained in the responses to Questions 5g, 7, and 10, above.	See Question 4 Attachments Q04a_Plat.pdf Q04a_2006 Plat.pdf
12. If not included in response to any of the previous questions, please describe the purpose and duration of each aquatic lands lease Respondent or the operator of Respondent's Property(ies) ever	Not applicable. The Stephens Substation is not adjacent to the Willamette River. There is no aquatic lands lease associated with the Stephens Substation.	

EPA Question	Response	Records/Information Available
obtained from the State of Oregon and provide a copy of each application for and aquatic lands lease obtained.		
Section 3.0 - Description of Each Property		
13. Provide the following information about each Property identified in response to Question 4:		
a. property boundaries, including a written legal description;	The Stephens Substation is located at 1830 SE Water Avenue, Portland, Oregon. Property boundaries are shown in the document (Q4a_ 2006 Plat.pdf) attached in response to Question 4a and the document (Q5c_Property Detail.pdf) attached in response to Question 5c. The legal description of Stephens Substation is Tax Lot 4400, Section 3, Township 1 South, Range 1 East, of the Willamette Meridian, County of Multnomah, and State of Oregon.	See Question 4 Attachment Q04a_2006 Plat.pdf Also see Question 5 Attachment Q5c_Property Detail.pdf
b. location of underground utilities (telephone, electrical, sewer, water main, etc.);	There are 18 underground 11kV and 4kV feeders leaving this substation in multiple directions. These copper and aluminum underground feeders are insulated cables routed in either clay duct banks or PVC conduit. The conduits/cables are buried at various depths with a minimum depth of approximately 3 feet. Each feeder runs from a feeder circuit breaker inside the substation to pulling/sectionalizing vaults outside of the substation. These cables and conduits are used as either 11kV or 4kV feeder gateways to distribute power within the nearby community. The attached Fieldview print (Q13b_Fieldview.pdf) shows approximate locations of these underground feeder getaways labeled Stephn-11001, Stephn-11054, Stephn-11055,Stephn-11092, Stephn-11093, Stephn-11094, Stephn-11095, Stephn-11096, Stephn-11097, Stephn-11098, Stephn-11099, Stephn-11020, Stephn-ESCSO, Brooklyn 4KV, Belmont 4KV, Hawthorne4KV, E Water 4KV, and Grand Av 4KV. An operating line diagram (Q13b_1983 Operating Line Diagram.pdf) is also attached. The attached Stephens Substation sewer map (Q13b_Property Detail Sewer.pdf) shows an abandoned municipal sewer main running through the property. According to the attached document (Q13b_1994 Abndmt of Sewer Pipeline.pdf), it was abandoned by the City of Portland in 1994. For further details, see the response for Questions 13i and 18. The attached Stephens Substation water map (Q13b_Property Detail Water.pdf) does not show any water lines within or connected to the Property. The 1924, 1950, and 1969 Sanborn maps (Q10_Sanborn Maps.pdf) attached in response to Question 10 indicate the presence of hydrants on the southern part of the property.	Question 13 Attachments Q13b_Fieldview.pdf (CEII[1]) Q13b_1983 Operating Line Diagram.pdf Q13b_Property Detail Sewer.pdf Q13b_Property Detail Water.pdf Q13b_1994 Abndmt of Sewer Pipeline.pdf Also see Question 10 Attachment Q10_Sanborn Maps.pdf
c. location of all underground pipelines whether or not owned, controlled or operated by you;	The Stephens Substation sewer map (Q13b_Property Detail Sewer.pdf) attached in response to Question 13b shows an abandoned municipal sewer main running through the Site. For further details, see the response for Questions 13i and 18. There are also underground drainage pipelines that run to the east and south of the substation equipment, which are part of the stormwater control and secondary spill containment system. See the document (Q19_2005_Stephens Oil Containment.pdf) attached in response to Question	Question 13 Attachments Q13b_Property Detail Sewer.pdf Also see Question 19 Attachment Q19_2005_Stephens Oil Containment.pdf

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
	19, as well as the response to Questions 13i and 18.	
d. surface structures (e.g., buildings, tanks, pipelines, etc.);	To the best of PGE's knowledge, after reasonable inquiry and based on the Sanborn maps (Q10_Sanborn Maps.pdf) attached in response to Question 10, the following structures were present on the property from at least 1909 until at least 1924: Structures: • Car painting shop • Car repairing shed From sometime after 1924 until sometime prior to 1945, PGE operated a synchronous condenser station on the property, which was associated with the Station L power plant. The synchronous condenser and any related structures were removed by 1945. Sometime prior to 1945, the Stephens Substation property was filled in and the substation was constructed. To the best of PGE's knowledge, after reasonable inquiry and based on the Sanborn maps (Q10_Sanborn Maps.pdf) attached in response to Question 10, the following structures were present on the property from at least 1950 until at least 1969, unless otherwise noted: Structures: • Drag (hoist) house – removed by 1969 • Transformer house (control building) • Transformer stands Substation equipment has been added, removed, and upgraded over the years. In addition to the concrete pulling/sectionalizing vaults and poles described in response to Question 13b and shown in the document (Q13b_Fieldview.pdf) attached in response to Question 13b, the following is a description of the other substation structures currently located at Stephens Substation: Stephens Substation Buildings: • Control building – houses medium voltage power equipment, protective relays, communication, telemetry, and control equipment. Structures: • Transmission structure – supports high voltage conductors and switches. • Distribution structure – supports medium voltage conductors and switches. Equipment: • Power circuit breakers – 26 • Power transformer – 11 • Station service transformer – 3	Question 13 Attachment Q13b_Fieldview.pdf (CEII[1]) Also see Question 10 Attachment Q10_Sanborn Maps.pdf

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
	• Metering transformers – 9 • Regulators – 37	
e. over-water structures (e.g., piers, docks, cranes, etc.);	Not applicable. The Stephens Substation is not adjacent to the Willamette River and does not have any over-water structures.	
f. dry wells;	To the best of PGE's knowledge, after reasonable inquiry, PGE had/has no dry wells at the Stephens Substation.	
g. treatment or control devices (e.g., surface water, air, groundwater, Resource Conservation and Recovery Act (RCRA), Transfer, Storage, or Disposal (TSD), etc.);	Other than the stormwater control and secondary spill containment system described in Questions 13i and 19, there are no treatment or control devices at the Stephens Substation.	
h. groundwater wells, including drilling logs;	Two monitoring wells (W-3 and W-7) were installed within the Stephens Substation during the environmental investigations for Station L. Monitoring well W-3 was installed in 1987 by Sweet Edwards/EMCON, Inc, but was accidentally damaged sometime before November 1990 during OMSI construction activities. CH2M Hill abandoned monitoring well W-3 in 1991. Monitoring well W-7 was installed in 1992 by CH2M Hill. For further information, see the Local Hydrogeology Section starting on page 2-19, the Groundwater Investigation Section starting on page 3-17, the Groundwater Section starting on page 4-73, and Appendices B, C, L, and M in the Station L Phase III Site Investigation Report (SIR) (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15. This document has information specific to the Stephens Substation. The entire Station L Phase III SIR is attached with the 104(e) response for Station L.	See Question 15 Attachment Q15_1994-08_Phase III_SIR-Stephens.pdf
i. stormwater drainage system, and sanitary sewer system, past and present, including septic tank(s) and where, when and how such systems are emptied and maintained;	To the best of PGE's knowledge, after reasonable inquiry, PGE has no records describing the stormwater drainage system prior to 1975. By 1975, however, several catch basins were present at Stephens Substation; see the document (Q19_1975_Oil Spill Plan.pdf) attached in response to Question 19. By 1983, an oil water separator was added to the stormwater control and secondary spill containment system; see the document (Q19_1983_Secondary Spill Cont.pdf) attached in response to Question 19. To the best of PGE's knowledge, after reasonable inquiry, PGE has no records indicating where the stormwater drained to prior to 1992. In 1992, PGE improved the Stephens Substation stormwater control and secondary spill containment system as follows: • PGE connected the control building roof drain rain leader to the City of Portland storm sewer lateral on SE Water Avenue (installed in January 1992). See the document (Q19_1992_Spill Cont Bldg Roof Drains.pdf) attached in response to Question 19 and the document (Q13b_Property Detail_Sub Sewer.pdf) attached in response to Question 13b. • PGE installed a concrete retaining wall that prevented stormwater from flowing off site via overland flow. See the document (Q19_1992_Spill Cont Retain Wall-Fence Map.pdf) attached in response to Question 19. • PGE installed piping, catch basins, vaults, manholes, and an oil stop vault to route stormwater flow to the City of Portland sewer lateral on SE Water Avenue. See the documents (Q19_1992_Spill Cont Plan Detail.pdf, Q19_1992_Spill Cont Plan.pdf, and Q19_2005_Oil Containment.pdf) attached in response to Question 19.	See Question 13 Attachments Q13b_Property Detail Sewer.pdf Q13b_1994 Abndmt of Sewer Pipeline.pdf Also see Question 19 Attachments Q19_2005_Oil Containment.pdf Q19_1992_Spill Cont Plan.pdf Q19_1922_Spill Cont Plan Detail.pdf Q19_1992_Spill Cont Retain Wall-Fence Map.pdf Q19_1992_Spill Cont Bldg Roof Drains.pdf Q19_1983_Secondary Spill Cont.pdf Q19_1975_Oil Spill Plan.pdf

EPA Question	Response	Records/Information Available
	In 2003, the retaining wall and security fence were removed and replaced with a security wall. The security wall was modified two years later. See the document (Q19_2005_ Oil Containment.pdf) attached in response to Question 19. The Stephens Substation sewer map (Q13b_Property Detail Sewer.pdf) attached in response to Question 13b shows an abandoned municipal sewer main running through the property. According to the document (Q13b_1994 Abndmt of Sewer Pipeline.pdf) attached in response to Question 13b, it was abandoned by the City of Portland in 1994. The Stephens Substation is not currently connected to the abandoned main. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information regarding any historical connections to the abandoned main.	
j. subsurface disposal field(s), Underground Injection Control (UIC) wells, and other underground structures (e.g., underground storage tanks (USTs); and where they are located, if they are still used, and how they were closed.	To the best of PGE's knowledge, after reasonable inquiry, there are/were no subsurface disposal fields, UICs, or USTs located at Stephens Substation. As part of the stormwater control and secondary spill containment system at Stephens Substation, catch basins have been on site since at least 1975, an oil water separator was on site by at least 1983 until approximately 1992. An oil stop vault was installed in 1992 and remains on site. See the response to Questions 13i and 19 for further details on the stormwater control and secondary spill containment system. Also see the response to Questions 13b and 13c for underground utilities and pipelines.	
k. any and all major additions, demolitions or changes on, under or about the Property, its physical structures or to the Property itself (e.g., stormwater drainage, excavation work); and any planned additions, demolitions or other changes to the Property;	OWP&R Co (a PGE predecessor company) purchased the Stephens Substation property in 1905 as part of the Station L power plant property. To the best of PGE's knowledge, after reasonable inquiry, Stephens Substation property has undergone a series of modifications; see the document (Q10_ Sanborn Maps.pdf) attached in response to Question 10, the attached documents (Q13k_1912-12-22_Station L.pdf and Q13k_Equipment List.pdf), and the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15. Major modifications include: • By 1909 – The two small structures that were present on the property in 1901 (one of which appears to be identified as a hen house) were removed. A car painting shop and car repairing shed were constructed in the northeast portion of the property. • Sometime after 1924 – The car painting shop and car repairing shed were removed. A synchronous condenser is added to the property. • By 1945/1950 – Fill was added to the property to fill in the portions inundated with water during high water levels. The synchronous condenser was removed from the property. The Stephens Substation transformer house (control building) and drag (hoist) house were constructed and the substation capacitors and transformers have been added. • 1966 – Addition of 11kV and 57kV switch structures. • By 1969 – Removal of the drag (hoist) house. • 1983 – Addition of an oil-water separator. • 1986 – Excavation and removal of contaminated soil and asphalt. • 1987 – Installation of monitoring well W-3 for Station L site investigation. • 1991 – Excavation and removal of contaminated soil. Monitoring well W-3 is	Question 13 Attachments Q13k_1912-12-22_Station L.pdf Q13k_Equipment List.pdf Also see Question 10 Attachment Q10_ Sanborn Maps.pdf Also see Question 15 Attachment Q15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 19 Attachments Q19_2005_Oil Containment.pdf Q19_2000_Spill Cont Mod.pdf Q19_1992_Spill Cont Plan.pdf Q19_1922_Spill Cont Plan Detail.pdf Q19_1992_Spill Cont Retain Wall-Fence Map.pdf Q19_1992_Spill Cont Bldg Roof Drains.pdf Q19_1983_Secondary Spill Cont.pdf

EPA Question	Response	Records/Information Available
	abandoned. • 1992 – Spill containment upgrades (e.g., retaining wall, security fence, building roof drains, yard grading, and additional piping, catch basins, oil stop vault, valves, and manholes). Monitoring well W-7 is installed as part of the Station L site investigation. • 2000 – Spill containment modifications to yard grading and primary spill containment. • 2003 – Spill containment upgrades include removing a retaining wall and replacing a security fence with security walls and gates. • 2005 – Spill containment upgrades including modifying a wall and adding an interior fence. Also see the response to Question 13d for a description of the current substation structures. To the best of PGE's knowledge, after reasonable inquiry, there are no future major additions/demolitions planned.	
l. all maps and drawings of the Property in your possession; and	Please refer to the attached site map. Also see the figures attached in response to other questions herein.	Question 13 Attachment Q13l_Site Map.pdf
m. all aerial photographs of the Property in your possession.	Aerial photographs are available at Google Maps, Google Earth, and Portland Maps. The aerial photographs that were available on Portland Maps are attached.	Question 13 Attachments Q13m_2001 Aerial.pdf Q13m_2004 Aerial.pdf Q13m_2007 Aerial.pdf
n. all information requested in (a) through (m) above regarding, but not limited to, the following:		
i. the Portland General Electric Station L location on 1841 SE Water Ave;	Although the Stephens Substation was historically part of the larger Station L property purchase, Station L (located at 1841 SE Water Avenue) is addressed in a separate 104(e) response. See the separate 104(e) response for Station L.	
ii. the Portland General Electric Station E location on 2635 NW Front Ave;	See the separate 104(e) response for Station E.	
iii. the Portland General Electric Station N location on 6616 N Lombard St.;	See the separate 104(e) response for Station N.	
14. For Properties adjacent to the Willamette River, provide specific information describing the river-ward boundary of private ownership and where state aquatic lands and/or state-management jurisdiction begins. Provide a map that delineates the river-ward boundary of each Property.	Not applicable. The Stephens Substation is not adjacent to the Willamette River.	

EPA Question	Response	Records/Information Available
15. For each Property, provide all reports, information or data you have related to soil, water (ground and surface), or air quality and geology/hydrogeology at and about each Property. Provide copies of all documents containing such data and information, including both past and current aerial photographs as well as documents containing analysis or interpretation of such data.	To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the reports, information, or data PGE has related to soil, water (ground and surface), or air quality and geology/hydrogeology at Stephens Substation: After the retirement of the Station L power plant in 1975, PGE considered upgrading the Station L property for commercial use, including philanthropic donation of the property. In 1986, PGE began an assessment of the uplands portion of the Station L property to support possible property upgrades, including the western portion of Stephens Substation. • In 1986/1987, OMNI Environmental Services Inc, on behalf of PGE, completed soil and asphalt sampling in the western third of the Stephens Substation; see the attached documents (Q15_1986 Analytical Report for OMNI Report.pdf, Q15_1987-01-20 Sample Location Map.pdf, Q15_1987-03-06_OMNI Sampling Report.pdf, Q15_1987-05-14 Sample Location Map.pdf, Q15_1987-06-05_OMNI Report 3 - Sampling Program.pdf, Q15_1987-07-06_Vol PCB Cleanup Plan.pdf, Q15_1987-07 PCB Results.pdf, and Q15_1987-07 PCB Results 2.pdf, Q15_1987-08-19 Sta L Excavation of Contaminated Soils.pdf, and Q15_1987-09-11_OMNI Report 5 - Sampling Program.pdf). Monitoring well W-3 was installed in 1987 by Sweet Edwards/EMCON, Inc. Soil and groundwater were sampled from test pit TP-8 and monitoring well W-3, respectively; see the attached documents (Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf and Q15_1988-05-09_Station L GW Report.pdf). • In late 1987, 180 tons of PCB and petroleum-hydrocarbon containing material (soil and asphalt was removed from the western third of Stephens Substation; see the attached documents (Q15_1987-12-31_Removal of PCB Cont Soils.pdf and Q15_1988-02-16_HartCrowser Status Letter.pdf). In 1987, PGE entered into the Voluntary Cleanup Program with the Oregon DEQ. PGE began further soil and sediment investigations under the cleanup program, including an evaluation of the eastern two thirds of the Stephens Substation (switchyard and side yard). In 1988, PGE entered into a three-phase consent order (DEQ ECSR-NWR-88-02) to identify the nature and extent of hazardous substances over the entire Station L property (addressed in a separate 104(e) response). Although PGE and DEQ did not consider the substation to be part of the Station L site, as defined in the 1988 Station L Consent Order, it was decided that information concerning the sampling and removal activities conducted in the Stephens Substation switchyard and side yard in conjunction with upgrades the stormwater control and secondary containment system would be provided in the Station L Phase III SIR. The portion of the Station L Phase III SIR that contains information concerning the Stephens Substation is attached (Q15_1994-08_Phase III_SIR-Stephens.pdf). The entire Station L Phase III SIR is provided inh the separate 104(e) response for Station L. The following summarizes the site investigations and remedial actions	Question 15 Attachments Q15_1986 Analytical Report for OMNI Report.pdf Q15_1987-01-20 Sample Location Map.pdf Q15_1987-03-06_OMNI Sampling Report.pdf Q15_1987-05-14 Sample Location Map.pdf Q15_1987-06-05_OMNI Report 3 - Sampling Program.pdf Q15_1987-07-06_Vol PCB Cleanup Plan.pdf Q15_1987-07 PCB Results 2.pdf Q15_1987-07 PCB Results.pdf Q15_1987-08-19 Sta L Excavation of Contaminated Soils.pdf Q15_1987-09-11_OMNI Report 5 - Sampling Program.pdf Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf Q15_1988-02-16_HartCrowser Status Letter.pdf Q15_1988-05-09_Station L GW Report.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Q15_1992-07_Phase III_GW Invest WP.pdf Q15_1998-04-21_OAL.pdf Q15_2004-01-14_NCA.pdf Q15_2004-01-22_NCA.pdf Q15_2004-08-04_NCA.pdf Q15_2006-09-12_TestAmerica.pdf Also see Question 19 Attachments Q19_1980_Station L include Stephens SPCC Plan.pdf Q19_SPCC_Figure.pdf (CEII[1])

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
	at the Stephens Substation switchyard and side yard: • Section 2 of the Station L Phase III SIR includes information on local geology/hydrogeology, including the Stephens Substation. • Sections 3 and 4 of the Station L Phase III SIR presents further information concerning the previous site investigations, including the 1986 and 1987 investigations and remediation in the western third of Stephens Substation. • Soil testing was conducted at the Stephens Substation switchyard and side yard (eastern two-thirds of Stephens Substation) in late 1991. Appendix A of the Station L Phase III SIR presents the PCB Sampling Location Map, Appendix H presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data), and Appendix I presents the Technical Memorandum for Stephens Substation Switch Yard Soil Investigation (including analytical data). • Monitoring well W-3 was accidentally damaged sometime prior to November 1990 during OMSI construction activities. CH2M Hill abandoned monitoring well W-3 in 1991. Monitoring well W-7 was installed in 1992 by CH2M Hill to replace monitoring well W-3. Monitoring well W-7 was sampled to provide upgradient groundwater information for the ongoing Station L site investigation. Appendix B of the Station L Phase III SIR presents the monitoring well W-3 abandonment documents, Appendix C presents the Slug Test Data and Analysis for Monitoring Wells (monitoring well W-7), Appendix G presents the Geologic Logs and Well Construction Diagrams for Original and New Monitoring Wells (monitoring wells W-3 and W-7), and Appendix M presents the Phase III Groundwater Investigation Laboratory Analytical Data (monitoring wells W-3 and W-7). Also see the attached groundwater investigation work plan (Q15_1992-07_Phase III_GW Invest WP.pdf). Testing of soil and equipment has been conducted, as needed, in conjunction with various improvements and maintenance activities at the Site, as well as in response to equipment spills. The available soil and equipment oil data from various improvements, maintenance activities, and spills are attached (Q15_1998-04-21_OAL.pdf, Q15_2004-01-14_NCA.pdf, Q15_2004-01-22_NCA.pdf, Q15_2004-08-04_NCA.pdf, and Q15_2006-09-12_TestAmerica.pdf). For information regarding the disposal of wastes and materials, see the response to Question 21. Also see the spill reports attached in response to Question 62. The SPCC Plans (Q19_2002_SPCC Plan, Q19_SPCC_Figure.pdf and Q19_1980_Station L include Stephens SPCC Plan.pdf), attached in response to Question 19, briefly describe topography and soil conditions at Stephens Substation. To the best of PGE's knowledge, after reasonable inquiry, the attached documents include all the reports, information, and data PGE was able to locate for Stephens Substation related to soil, water (ground and surface), or air quality and geology/hydrogeology.	

EPA Question	Response	Records/Information Available
16. Identify all past and present solid waste management units or areas where materials are or were in the past managed, treated, or disposed (e.g., waste piles, landfills, surface impoundments, waste lagoons, waste ponds or pits, tanks, container storage areas, etc.) on each Property. For each such unit or area, provide the following information:	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, there are no past or present solid waste management units or areas where materials are or were in the past managed, treated, or disposed (e.g., waste piles, landfills, surface impoundments, waste lagoons, waste ponds or pits, tanks, container storage areas, etc.) at the Stephens Substation.	
a. a map showing the unit/area's boundaries and the location of all known units/areas whether currently in operation or not. This map should be drawn to scale, if possible, and clearly indicate the location and size of all past and present units/areas;		
b. dated aerial photograph of the site showing each unit/area;		
c. the type of unit/area (e.g., storage area, landfill, waste pile, etc.), and the dimensions of the unit/area;		
d. the dates that the unit/area was in use;		
e. the purpose and past usage (e.g., storage, spill containment, etc.);		
f. the quantity and types of materials (hazardous substances and any other chemicals) located in each unit/area and;		
g. the construction (materials, composition), volume, size, dates of cleaning, and condition of each unit/area.		
17. If the unit/area described above is no longer in use, how was such unit/area closed and what actions were taken to prevent or address potential or actual	Not applicable to Stephens Substation. See the response to Question 16.	

EPA Question	Response	Records/Information Available
releases of waste constituents from the unit/area.		
18. For each Property, provide the following information regarding any current or former sewer or storm sewer lines or combined sanitary/storm sewer lines, drains, ditches, or tributaries discharging into the Willamette River:		
a. the location and nature of each sewer line, drain, ditch, or tributary;	The Stephens Substation sewer map (Q13b_Property Detail Sewer.pdf) shows an abandoned municipal sewer main running through the Site. According to the document (Q13b_1994 Abndmt of Sewer Pipeline.pdf) attached in response to Question 13b, it was abandoned by the City of Portland in 1994. The Stephens Substation is not currently connected to the abandoned main. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information regarding any historical connections to the abandoned main. The abandoned main appears to have discharged to the Willamette River. The Stephens Substation stormwater control and secondary spill containment system has been connected to the City of Portland storm main on SE Water Avenue via a lateral since 1992; see the documents (Q19_SPCC_Figure.pdf and Q19_1992_ Spill Cont Bldg Roof Drains.pdf) attached in response to Question 19 and the sewer map (Q13b_Property Detail Sewer.pdf) attached in response to Question 13b. The City of Portland s storm main on SE Water Avenue discharges to the Willamette River. Also see the response for Questions 13i and 19.	See Question 13 Attachments Q13b_Property Detail Sewer.pdf Q13b_1994 Abndmt of Sewer Pipeline.pdf Also see Question 19 Attachments Q19_SPCC_Figure.pdf (CEII[1]) Q19_1992_ Spill Cont Bldg Roof Drains.pdf
b. the date of construction of each sewer line, drain, ditch, or tributary;	To the best of PGE's knowledge, after reasonable inquiry, PGE has no information indicating the construction date for the City of Portland abandoned sewer main that runs through Stephens Substation. Per information gathered from Portlandmaps.com, the City of Portland storm lateral on SE Water Avenue was installed in January 1992.	
c. whether each sewer line, or drain was ever connected to a main trunk line;	The Stephens Substation sewer map (Q13b_Property Detail Sewer.pdf) attached in response to Question 13b shows an abandoned municipal main running through the Site. The abandoned main appears to have historically discharged to the Willamette River. The Stephens Substation is not currently connected to the abandoned main. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information regarding any historical connections to the abandoned main. The Stephens Substation stormwater control and secondary spill containment system has been connected to the City of Portland storm main on SE Water Avenue via a lateral since 1992; see the documents (Q19_SPCC_Figure.pdf and Q19_1992_ Spill Cont Bldg Roof Drains.pdf) attached in response to Question 19 and the sewer map (Q13b_Property Detail Sewer.pdf)	See Question 13 Attachment Q13b_Property Detail Sewer.pdf Also see Question 19 Attachments Q19_SPCC_Figure.pdf (CEII[1]) Q19_1992_ Spill Cont Bldg Roof Drains.pdf

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
	attached in response to Question 13b. The City of Portland s storm main on SE Water Avenue discharges to the Willamette River. Also see the response for Questions 13i and 19.	
d. whether each sewer line, drain, ditch, or tributary drained any hazardous substance, waste, material or other process residue to the Willamette River; and	To the best of PGE's knowledge, after reasonable inquiry, PGE is unaware of the discharge of hazardous waste, material, or other process residue to any ditches, sewer lines, or other drainage features at the Stephens Substation.	
e. any documentation regarding but not limited to the following on any and all outfalls to the Willamette River which are located within the boundaries of the Property(ies). Your response should include, but not be limited to: i. the areas serviced by the outfalls; and ii. the type of outfall (i.e., stormwater or single facility operational).	Not applicable. The Stephens Substation is not adjacent to the Willamette River. There are no outfalls to the Willamette River that are located within the boundary of Stephens Substation.	
19. Provide copies of any stormwater or property drainage studies, including data from sampling, conducted at these Properties on stormwater, sheet flow, or surface water runoff. Also provide copies of any Stormwater Pollution Prevention, Maintenance Plans or Spill Plans developed for different operations during the Respondent's operation of each Property.	The current SPCC Plan (Q19_2002_SPCC Plan.pdf) is attached, as well as figures showing site-specific features, including the secondary spill containment system at Stephens Substation. Also attached is the 1980 SPCC Plan for Station L (Q19_1980_Station L include Stephens SPCC Plan.pdf), which also covered the Stephens Substation. The SPCC Plans and associated figures are utilized by PGE to ensure that Stephens Substation has adequate operating procedures to prevent oil spills, control measures to prevent a spill from reaching navigable waters, and countermeasures to contain, clean up, and mitigate the effects of an oil spill that reaches navigable waters. The spill containment system at the Stephens Substation, which includes the stormwater control and secondary oil spill containment system, captures and contains oil from power equipment in case of leaks or failures. The stormwater control and secondary spill containment system at Stephens Substation is discussed in more detail in the response to Question 13i. General PGE spill clean up procedures are described in the attached documents (Q19_Environmental Services Oil Spill Instruction.pdf, Q19_Oil Spill Cleanup Procedures.pdf, Q19_Oil Spill Response Team.pdf, and Q19_Oil Spill First Response.pdf). To the best of PGE's knowledge, after reasonable inquiry, other than evaluation for SPCC requirements, no drainage studies have been performed at Stephens Substation.	Question 19 Attachments Q19_2002_SPCC Plan.pdf Q19_1980_Station L include Stephens SPCC Plan.pdf Q19_SPCC_Figure.pdf (CEII[1]) Q19_2005_Oil Containment.pdf Q19_2000_Spill Cont Mod.pdf Q19_1992_Spill Cont Plan.pdf Q19_1922_Spill Cont Plan Detail.pdf Q19_1992_Spill Cont Retain Wall-Fence Map.pdf Q19_1992_Spill Cont Bldg Roof Drains.pdf Q19_1983_Secondary Spill Cont.pdf Q19_1975_Oil Spill Plan.pdf Q19_ Oil Containment Device.pdf Q19_Environmental Services Oil Spill Instruction.pdf Q19_Oil Spill Cleanup Procedures.pdf Q19_Oil Spill First Response.pdf Q19_Oil Spill Response Team.pdf

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
Section 4.0 - Respondent's Operational Activities		
20. Describe the nature of your operation or business activities at each Property. If the operation or business activity changed over time, please identify each separate operation or activity, the dates when each operation or activity was started and. if applicable, ceased.	See the response to Question 5g for a description of the activities performed at Stephens Substation. The purpose of Stephens Substation is to provide continuous electrical power to customers and to protect the public and equipment from electrical and mechanical faults. The Property began use as a substation sometime between 1924 and 1945 and remains in operation. See the response for Question 13k for a discussion of major modifications at Stephens Substation.	
21. At each Property, did you ever use, purchase, generate, store, treat, dispose, or otherwise handle any waste, or material? If the answer to the preceding question is anything but an unqualified "no," identify:		
a. in general terms, the nature and quantity of the waste or material so transported, used, purchased, generated, stored, treated, disposed, or otherwise handled;	Waste and materials have been handled at Stephens Substation in conjunction with various operations, construction projects, and spills. To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the known handling of waste and materials at Stephens Substation. Most of the functions of a substation are automatic and occur without direct supervision. No wastes, including municipal wastes, are generated during regular operations. Periodically, equipment is taken out of service for off-site maintenance. During these periods, waste material is generated. The primary materials used for maintenance include transformer oil (liquid), solvents (liquid), denatured alcohol (liquid), degreasers (liquid), lubricating grease (semi-liquid), hydraulic fluid (liquid), and paint (liquid). The chemical composition, characteristics, and physical state of materials potentially used at Stephens Substation are described in the MSDS documents for the products/materials currently used at PGE properties within Oregon, which are provided in a supplemental submittal (Supplemental Submittal S2). To the best of PGE's knowledge, after reasonable inquiry, other than paint, PGE does not know what other materials, if any, may have been used at the historical car painting shop (at least 1909 to at least 1924). To the best of PGE's knowledge, after reasonable inquiry, PGE has very limited information regarding the materials used during the operation of the synchronous condenser (sometime after 1924 until sometime prior to 1945). With the notable exception of transformer oil (which would not have been used), maintenance materials are likely to have been similar to those used in a substation. Synchronous condensers are not oil filled and maintenance would be limited to lubrication and cleaning. To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the known remediation activities conducted at Stephens Substation associated with the releases of PCB-containing oil:	Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_2008_Oil Filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Q21a_1998-10-08_Drained Oil Lab Results.pdf Q21a_2002-3-35_Bushings Lab Results.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2004-08-13_Disposal Permit and Profile.pdf Q21a_2004-12-30_Disposal Permit and Profile.pdf Q21a_2005 Haz Waste Manft Lqd.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see Question 15 Attachments

EPA Question	Response	Records/Information Available
	• April 1 or 7, 1981 – A capacitor spilled approximately 1 gallon of PCB-containing oil (liquid) onto gravel and soil (solid). PGE personnel reported, contained, and cleaned up the spill. See the documents (Q62_04-07-1981_Spill Report.pdf and Q62_Spill Database List_Stephens.pdf) attached in response to Question 62. To the best of PGE's knowledge, after reasonable inquiry and based on the attached document (Q21a_Waste Stream Summary.pdf), the PCB-containing soil/gravel (solid) was likely disposed of at the Arlington Landfill after interim storage at the Sellwood Substation (a PGE waste and material handling facility). • 1986/1987 – During the site investigation of the western third of Stephens Substation, PCB-containing soil and asphalt (solid) were discovered around the equipment. In late 1987, approximately 180 tons of material (soil and asphalt) were removed and disposed of at Arlington Landfill. For further information, see the attached document (Q21a_1987 Haz Waste Manfts.pdf), the documents (Q62_1987-07 Excavation Daily Reports.pdf and Q62_1987-08-20 Excavation Daily Report.pdf) attached in response to Question 62, and the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf) attached in response to Question 15. • 1992 – During the site investigation of the eastern two-thirds of Stephens Substation (switchyard and side yard), PCB-containing soil (solid) was discovered around the equipment in the side yard. Approximately 20 cubic yards of PCB-containing soil (solid) were removed and disposed of at Arlington Landfill. Appendix H in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data). • July 30, 2002 – A regulator spilled approximately 2 gallons of oil (liquid) containing 21 ppm of PCBs onto concrete and gravel (solid). PGE personnel cleaned up the spill by cleaning the concrete and removing approximately 0.5 cubic yards of gravel (solid). See the document (Q62_2002-7-30_Spill Report.pdf) attached in response to Question 62. The gravel (solid) was transferred to Wilsonville for interim storage prior to disposal. To the best of PGE's knowledge, after reasonable inquiry and based on the attached documents (Q21a_2002 NonHaz WAL & Profile.pdf and Q21a_Waste Stream Summary.pdf), the PCB-containing gravel was likely disposed of at the Columbia Ridge Landfill in August 2002. • July 22, 2005 – Univar picked up and transported approximately 21 kilograms of PCB-containing soil and debris (solid, > 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC. See the attached document (Q21a_2005 Haz Waste Manft Solid.pdf). See the attached document (Q21a_2008_Oil filled Equipment.xls) for the list of oil-filled equipment currently in service at the Stephens Substation. The document identifies the position of the oil-filled equipment, the serial number of the equipment, the year manufactured, the detected PCB concentrations, and the date tested for PCBs and the total volume of oil. Also see the attached documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled	Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 33 Attachment Q33_08 EMC List.doc Also see Question 62 Attachments Q62_Spill Database List_Stephens.pdf Q62_04-07-1981_Spill Report.pdf Q62_1987-07 Excavation Daily Reports.pdf Q62_1987-08-20 Excavation Daily Report.pdf Q62_2002-7-30_Spill Report.pdf

EPA Question	Response	Records/Information Available
	Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) for the list of oil-filled equipment at the Stephens Substation in 1984, 1985, 1986, and 1996. Other oil-filled equipment (solid) transportation and disposal documents, including drained oil (liquid), include: • The attached documents (Q21a_1991-03_Capacitor Transport.pdf, Q21a_1991-03_CT-PT Transport.pdf, Q21a_1991-04_Capacitor Transport.pdf, Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf, Q21a_1992-04_Transformer Transport.pdf, and Q21a_1993-09_Capacitor Transport.pdf) are general transport documents for non-leaking capacitors (oil-filled capacitors [solid with liquid]) removed from the Stephens Substation between 1991 and 1993. To the best of PGE's knowledge, after reasonable inquiry and based on the transportation documents, all of these obsolete capacitors were transported to Sellwood Substation (a waste and materials handling facility) for interim storage. These documents indicated that at least some of the capacitors were subsequently transported to General Electric for disposal. • The attached document (Q21a_1994 Haz Waste Manft.pdf) includes the hazardous waste manifests for the disposal of PCB-containing oil (liquid). This waste was transported by PGE to General Electric Company. • The attached document (Q21a_1998-10-08_Drained Oil Lab Results.pdf) records the status and PCB concentration of three transformers (solid) formerly at Stephens Substation. Containing oil (liquid) with PCB concentrations between 3 and 75 ppm, these transformers were drained (around 1999) and sold or junked. To the best of PGE's knowledge, after reasonable inquiry and based on the attached document (Q21a_Waste Stream Summary.pdf), the PCB-containing oil was likely recycled or incinerated at Transformer Technologies, Clean Harbors Deer Park, or Environmental Management of KC Inc. To the best of PGE's knowledge, after reasonable inquiry and based on the attached document (Q21a_Waste Stream Summary.pdf), the drained equipment was likely recycled at Coleman Metals or disposed of at Arlington Landfill. • The attached document (Q21a_2002-3-35_Bushings Lab Results.pdf) indicates that Coleman Metals picked up drained bushings (solid) from Sellwood and Stephens Substations on 6 April 2002. According to the provided laboratory reports, these bushings did not have detectable PBC concentrations. • The attached document (Q21a_2005 Haz Waste Manft Lqd.pdf) includes the hazardous waste manifest for the disposal of approximately 2,800 kg of oil (liquid) containing 50 to 499 ppm of PCBs from the Stephens Substation in July/August 2005. This oil was transported by Univar USA Inc to Onyx Environmental Services where it was incinerated. Soil (solid) and gravel (solid) removed from PGE properties during other site excavations (from other site upgrades or equipment spill response) is tested (for petroleum-hydrocarbon and/or PCB contamination) and disposed of appropriately, as needed.	

EPA Question	Response	Records/Information Available
	Disposal documents related to construction activities include: • April 1998 – Columbia Ridge Landfill approved PGE's request to dispose of approximately 20 cubic yards of soil and debris (solid) containing 0.4 ppm PCBs which were removed in order to pour footings for new equipment at Stephens Substation. See the attached document (Q21a_1998-04-30_Waste Approval.pdf). • August 1998 – PGE requested permission to dispose of approximately 100 cubic yards or 150 tons of soil and debris (solid) containing 0.4 ppm PCBs. See the attached document (Q21a_1998-08-19_Waste Approval Request.pdf). To the best of PGE's knowledge, after reasonable inquiry and based on the attached document (Q21a_Waste Stream Summary.pdf), the PCB-containing soil/gravel was likely disposed of at the Hillsboro Landfill or Columbia Ridge Landfill after interim storage at a PGE waste and material handling facility. • August to November 2004 – PGE received a permit to dispose of up to 100 tons of soil, gravel, and miscellaneous debris containing 0.116 to 1.37 ppm PCBs at Hillsboro Landfill. This material was generated by construction work at Stephens Substation. See the attached document (Q21a_2004-08-13_Disposal Permit and Profile.pdf). • December 2005 to March 2005 – PGE received a permit to dispose of up to 60 tons of dirt and root balls (solid) at Hillsboro Landfill. See the attached document (Q21a_2004-12-30_Disposal Permit and Profile.pdf) for more information. To the best of PGE's knowledge, after reasonable inquiry, those companies/persons with whom PGE currently has arrangements for disposal/recycling/destruction of wastes and/or used material are listed in the attached document (Q21a_Waste Stream Summary.pdf). The document summarizes the current various waste stream types, the current initial carrier, the current interim storage (if applicable), the current secondary carrier (if applicable), and the current disposal/recycling facility. To the best of PGE's knowledge, after reasonable inquiry, all companies/persons with whom PGE has made arrangements for disposal/recycling/destruction of wastes and/or used material for PGE properties in Oregon are listed in the document (Q40_Waste-Materials Receivers and Carriers.pdf) attached in response to Question 40.	
b. the chemical composition, characteristics, physical state (e.g.. solid. liquid) of each waste or material so transported, used, purchased, generated, stored. treated, disposed, or otherwise handled;	See the response to Question 21a, which includes the information concerning chemical composition, characteristics, and physical state of each waste or material.	
c. how each such waste or material was used, purchased, generated, stored, treated, transported, disposed or otherwise handled by you; and	To the best of PGE's knowledge, after reasonable inquiry, no materials are/were stored on site, other than possibly paint in the car painting shop (operated from at least 1909 until at least 1924). To the best of PGE's knowledge, after reasonable inquiry, no wastes are/were stored at Stephens Substation. Historically, wastes and used materials from within the Investigation Area were transported	

EPA Question	Response	Records/Information Available
	either directly to the appropriate disposal facility or to one of PGE's waste and material handling facilities at Harborton Substation (located at 12500 NW Marina Way, Portland, OR), Sellwood Substation (located at 8856 SE 13th Ave), Portland Service Center (PSC) (located at 3700 SE 17th Ave, Portland, Oregon), or Wilsonville (located at 9480 SW Boeckman Rd, Wilsonville, Oregon - only soil/gravel with < 50 ppm PCBs) for interim storage prior to disposal/recycling/destruction. Currently, wastes and used materials that are not transported directly to the appropriate disposal facility are transferred to the current waste and material handling facilities (PSC and Wilsonville [only soil/gravel with < 50 ppm PCBs]) for interim storage prior to disposal/recycling/destruction. Materials potentially contaminated with PCBs are sealed in barrels and transferred to PGE's waste and material handling facility (currently at PSC). Once received at the waste and material handling facility, these wastes are tested to determine a disposal location appropriate for their PCB concentration or assumed to contain PCBs. These wastes include: • Used/excess lubricants, oils, and other fluids • Obsolete equipment (e.g., transformers, capacitors, condensers) • Rags used to clean equipment • Absorbent material used to clean up leaks or spills • Ballasts Wastes not contaminated with PCBs are containerized separately and transferred to PGE's waste and material handling facility (currently at PSC). The Toxic Substances Control Act (TSCA) regulation standard and accepted industry standard is to use the term "non-PCB" to describe oils with < 50 ppm PCBs; this term is used throughout this document. Non-PCB wastes include: • Solvents • Batteries • Scrap metal • Light bulbs • General garbage and recycling Soil and gravel removed during excavations (from upgrades or equipment spill response) is tested and disposed of appropriately. The soil and gravel are either transported directly from the site to the disposal facility, or are transported to Wilsonville and/or PSC for interim storage before bulk disposal at a location dependant upon PCB content. See the response and documents attached for Question 21a for how the known remediation wastes were handled by PGE. See the document (Q21a_2008_Oil Filled Equipment.xls) attached in response to Question 21a for the list of oil-filled substation equipment currently in service at the Stephens Substation. The documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a describe PGE's oil-filled equipment at the Stephens Substation in 1984, 1985, 1986, and 1996. Also see the response and documents attached for Question 21a for how the obsolete capacitors were handled by PGE.	Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_2008_Oil Filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Q21c_Cleaning Up Small Mercury Spills 2008.doc Q21c_HID and Fluorescent Tube Storage Instructions 2006.doc Q21c_PGE Aerosol Can Disposal Flowchart 2006.doc Q21c_PGE Battery Flow Chart 2007.doc Q21c_PGE Bulb & Tube Recycling Flowchart 2006.doc

EPA Question	Response	Records/Information Available
	See the attached documents for descriptions of PGE's waste and used material handling procedures. The attached mercury spill cleanup guide is a general PGE guidance and does not imply that mercury spills have ever occurred at the Stephens Substation. Also see the response and documents for Questions 15, 21a, 21d, 52, and 62. The Harborton Substation, which was historically a PGE waste and material handling facility, is within the Investigation Area and is addressed in a separate 104(e) response. Also, see the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7).	
d. the quantity of each such waste or material used, purchased, generated, stored, treated, transported, disposed or otherwise handled by you.	<u>Historical Operations</u> From at least 1909 to at least 1924, PGE conducted activities and operations on the northeastern portion of the Stephens Substation property associated with the car painting shop and car repairing shed. The primary materials that were likely used at the car painting ship include paint, brushes/applicators, etc. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information concerning the quantity of materials used or waste generated during the car painting activities. From sometime after 1924 until sometime prior to 1945, PGE operated a synchronous condenser on the Stephens Substation in association with the Station L power plant. The primary materials that may have been used for equipment maintenance include solvents, denatured alcohol, degreasers, lubricating grease, and paint. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information concerning the quantity of materials used or waste generated during synchronous condenser operation. <u>Substation Operations</u> The Stephens Substation property has been used as a substation from sometime prior to 1945 to present. Waste was generated during substation operations associated with equipment maintenance and upgrades. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information on the exact quantities of oil or routine maintenance waste removed from the Stephens Substation. Soil and gravel removed during excavations (from upgrades or equipment spill response) is tested and disposed of appropriately. The soil and gravel are either transported directly from the site to the disposal facility, or are transported to Wilsonville and/or PSC for interim storage before bulk disposal at a location dependant upon PCB content. See the response to Question 21a for the quantity of the known remediation wastes handled by PGE. See the document (Q21a_2008_Oil Filled Equipment.xls) attached in response to Question 21a for the list of oil-filled substation equipment currently at the Stephens Substation. The documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a describe PGE's oil-filled equipment at the Stephens Substation in 1984, 1985, 1986, and 1992. Also see the response to Question 21a for the information concerning the quantity of obsolete capacitors handled by PGE See the response and documents for Questions 15, 21a, and 62. Also see the waste and	Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_2008_Oil Filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Q21a_1998-10-08_Drained Oil Lab Results.pdf Q21a_2002-3-35_Bushings Lab Results.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2004-08-13_Disposal Permit and Profile.pdf Q21a_2004-12-30_Disposal Permit and Profile.pdf Q21a_2005 Haz Waste Manft Lqd.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see all Question 15 Attachments Also see all Question 62 Attachments

EPA Question	Response	Records/Information Available
	materials documentation provided in the separate 104(e) response for the Harborton Substation, which was historically a waste and material handling facility and is within the Investigation Area, and the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7).	
22. Describe all activities at each Property that was conducted over, on, or adjacent to, the Willamette River. Include in your description whether the activity involved hazardous substances, waste(s), or materials and whether any such hazardous substances, waste(s), or materials were discharged, spilled, disposed of, dropped, or otherwise came to be located in the Willamette River.	Not applicable. The Stephens Substation is not adjacent to the Willamette River.	
23. For each Property at which there was or is a mooring facility, dock, wharf or any over-water structure, provide a summary of over-water activities conducted at the structure, including but not limited to, any material loading and unloading operations associated with vessels, materials handling and storage practices, ship berthing and anchoring, ship fueling, and ship building, retrofitting, maintenance, and repair.	Not applicable. The Stephens Substation is not adjacent to the Willamette River.	
24. Describe all activities conducted on leased aquatic lands at each Property. Include in your description whether the activity involved hazardous substances, waste, or materials and whether any such hazardous substances, waste, or materials were discharged, spilled, disposed of, dropped, or otherwise came to be located on such leased aquatic lands.	Not applicable. The Stephens Substation is not adjacent to the Willamette River.	

EPA Question	Response	Records/Information Available
25. Please describe the years of use, purpose, quantity, and duration of any application of pesticides or herbicides on each Property during the period of investigation (1937 to the present). Provide the brand name of all pesticides or herbicides used.	Several herbicides have been used at Stephens Substation to control vegetation growth. From 1992 through 2007, one or more herbicides (i.e., Oust, Diuron, Princep, Pendulum, Landmark, Portfolio, and/or Garlon4) were used at Stephens Substation. The following are the quantities typically applied (when applied): • Oust – 2-3 oz per acre • Diuron – 5-6 lbs per acre • Princep – 5 lbs per acre • Pendulum – 5 lbs per acre • Landmark – 4.5 oz per acre • Portfolio – 4 oz per acre • Garlon4 – as needed for spot brush control See the attached document for further details on the known herbicide application history.	Question 25 Attachment Q25_Stephens Sub HerbApp.pdf
26. Describe how wastes transported off the Property for disposal are and ever were handled, stored, and/or treated prior to transport to the disposal facility.	To the best of PGE's knowledge, after reasonable inquiry, no waste or materials have been stored on site. Wastes and used materials from within the Investigation Area are either transported directly to the appropriate disposal facility or transported to a PGE waste and material handling facility for interim storage prior to disposal/recycling/destruction. Historically, PGE's waste and material handling facilities were Harborton Substation, Sellwood Substation, PSC, or Wilsonville (only soil/gravel with < 50 ppm PCBs). Currently, PGE's waste and material handling facilities are PSC and Wilsonville (only soil/gravel with < 50 ppm PCBs). For further waste information, see the response and documents for Question 21 and 52, as well as the documents (Q15_1987-12-31_Removal of PCB Cont Soils.pdf and Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15.	See all Question 21 Attachments Also see Question 15 Attachments Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see all Question 52 Attachments
27. Has Respondent ever arranged for disposal or treatment or arranged for transportation for disposal or treatment of materials to any Property (including the Willamette River) within the Investigation Area? If so, please identify every Property that Respondent's materials were disposed or treated at in the Investigation Area. In addition, identify:	To the best of PGE's knowledge, after reasonable inquiry, waste and materials were not disposed of at the Stephens Substation. To the best of PGE's knowledge, after reasonable inquiry, no wastes were disposed of into the Willamette River.	
a. the persons with whom the Respondent made such arrangements;	In general, waste and used material from within the Investigation Area are either transported directly to the appropriate disposal facility or transported to a PGE waste and material handling facility for interim storage prior to disposal/recycling/destruction. Historically, PGE's waste and material handling facilities were Harborton Substation, Sellwood Substation, PSC, or Wilsonville (only soil/gravel with < 50 ppm PCBs). Currently, PGE's waste and material handling facilities are PSC and Wilsonville (only soil/gravel with < 50 ppm PCBs). The Harborton Substation is within the Investigation Area and is addressed in a separate 104(e) response.	Question 27 Attachment Q27_Waste-Materials Receivers within IA.pdf Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf

EPA Question	Response	Records/Information Available
	To the best of PGE's knowledge, after reasonable inquiry, companies with whom PGE has made arrangements for disposal/recycling/destruction of wastes and/or used material for PGE properties in Oregon are listed in the document (Q40_Waste-Materials Receivers and Carriers.pdf) attached in response to Question 40. To the best of PGE's knowledge, after reasonable inquiry, those companies currently used are listed in the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a. Of those listed in the document (Q40_Waste-Materials Receivers and Carriers.pdf) attached in response to Question 40, those companies within the Investigation Area are summarized in the attached document (Q27_Waste-Materials Receivers within IA.pdf) and include the following: • Acme Trading & Supply – located at 4927 NW Front Ave, Portland, OR • AGG Enterprises Inc. – located at 555 N Channel Ave, Portland, OR • Ash Grove Cement Company – located at 13939 N Rivergate Blvd, Portland, OR • Bingham Willamette (now Sulzer Pumps) – located at 2800 NW Front Ave, Portland, OR • Calbag Metals – located at 2495 NW Nicolai St and 12005 N Burgard Way, Portland, OR • Cascade General Inc – located at 5555 N Channel Rd, Portland, OR • **General Electric Company** – located at 2535 NW 28th Ave, Portland, OR • Northwest Natural Gas Co – located at 123 NW Flanders, Portland, OR • Nudleman & Sons – located at 2707 NW Nela, Portland, OR • Oregon Hydrocarbon/TPS Technologies – located at 9333 N Harborgate St, Portland, OR • Port of Portland – located at 121 NW Everett Street, Portland, OR • Schnitzer Steel – located at 3200 NW Yeon Ave and 12005 N Burgard Way, Portland, OR • Tyee Construction Company of Oregon – located at 12005 Burgard Way, Portland, OR • **Univar** – located at 3950 NW Yeon Ave and 10821 N Lombard St, Portland, OR • Western Steel Cast – located at 3070 SW Moody, Portland, OR To the best of PGE's knowledge, after reasonable inquiry, only General Electric Company and Univar (listed above in **bold**) have been identified as having received waste from the Stephens Substation based on the response and documents attached in response to Question 21. In March 1991, April 1992, and March 1994, General Electric Company received obsolete capacitors from Stephens Substation, after interim storage at the Sellwood Substation (a historical PGE waste and material handling facility); see the transport records (Q21a_1991-03_Capacitor Transport.pdf, Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf, Q21a_1992-04_Transformer Transport.pdf) and the hazardous waste manifest (Q21a_1994 Haz Waste Manft.pdf) attached in response to Question 21a. On 22 July 2005, Univar transported approximately 21 kg of PCB-containing debris (> 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC (a PGE waste and material handling facility); see the document (Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. The other (non-bold) companies listed above have historically received or currently receive	Q21a_1992-04_Transformer Transport.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see Question 40 Attachment Q40_Waste-Materials Receivers and Carriers.pdf

EPA Question	Response	Records/Information Available
	waste and/or used materials from the PGE waste and material handling facilities, which may have included waste and/or used material from the Stephens Substation. The Harborton Substation, a historical PGE waste and materials handling facility, is within the Investigation Area and is addressed in a separate 104(e) response. Also see the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7).	
b. every date on which Respondent made such arrangements;	The only companies positively identified by PGE as having received waste or used material from the Stephens Substation are General Electric and Univar (listed in **bold** in response to Question 27a). PGE made the arrangements with General Electric in March 1991, April 1992, and March 1994. PGE made the arrangement with Univar in July 2005. See the response to Question 27a, as well as the documents (Q21a_1991-03_Capacitor Transport.pdf, Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf, Q21a_1992-04_Transformer Transport.pdf, Q21a_1994 Haz Waste Manft.pdf, and Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. Additional available general PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling are provided in the Harborton Substation 104(e) response, the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7), and the supplemental submittal of general PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling (Supplemental Submittal S6).	See Question 21 Attachments Q21a_1991-03_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1994 Haz Waste Manft.pdf
c. the nature, including the chemical content, characteristics, physical state (e.g., solid, liquid) and quantity (volume and weight) of all materials involved in each such arrangement;	Historically, used oil and maintenance waste (including petroleum hydrocarbon and/or PCB contaminated waste) were transported to Harborton Substation, Sellwood Substation, or PSC for interim storage prior to disposal or recycling. Currently, used oil and maintenance waste are transported to PSC for interim storage prior to disposal or recycling. The amount of waste generated during substation operations associated with equipment maintenance varied between substations/properties. To the best of PGE's knowledge, after reasonable inquiry, PGE has no information regarding the exact quantities/characteristics of oil or routine maintenance waste removed from the substations/properties. The Harborton Substation is within the Investigation Area and is discussed in a separate 104(e) response. Also see the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7). To the best of PGE's knowledge, after reasonable inquiry, disposal/recycling facilities with which PGE has made arrangements for disposal/recycling of wastes for PGE properties in Oregon are listed in the document (Q40_Waste-Materials Receivers and Carriers.pdf) attached in response to Question 40. The document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a summarizes the current various waste stream types, the current initial carrier, the current interim storage (if applicable), the current secondary carrier (if applicable), and the current disposal/recycling facility. Of those listed, the following is a description of the waste and used material disposed/recycled at facilities within the Investigation Area: • Acme Trading & Supply – Used (but not obsolete) transformers (solid) and ballasts (solid) • AGG Enterprises Inc. – Mixed non-hazardous waste (various) and recyclables • Ash Grove Cement Company – oil (liquid) with PCBs < 50 ppm	See Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see Question 40 Attachment Q40_Waste-Materials Receivers and Carriers.pdf

EPA Question	Response	Records/Information Available
	• Bingham Willamette (now Sulzer Pumps) – Used (but not obsolete) transformers (solid) and oil circuit breakers (solid) • Calbag Metals – Scrap metal (solid) and empty aerosol cans (solid) • Cascade General Inc – Non-hazardous liquid waste/material: mineral oil (liquid) with PCBs < 50 ppm • **General Electric Company** – Oil with PCBs ≥ 50 ppm (liquid) and obsolete equipment (solid) with trace levels of PCBS ≥ 50 ppm Used (but not obsolete) transformers (solid) • Northwest Natural Gas Co – Transformer oil (liquid) • Nudleman & Sons – Scrap copper (solid) • Oregon Hydrocarbon/TPS Technologies – Solidified contents of USTs (solid) and petroleum hydrocarbon-contaminated soil (solid) • Port of Portland – Used (but not obsolete) transformers (solid) and ballasts (solid) • Schnitzer Steel – Scrap metal (solid) and empty aerosol cans (solid) • Tyee Construction Company of Oregon – Transformers (solid) • **Univar** – Used transformer/insulating oil (liquid, <1 ppm PCBs), used rags/absorbent material from leaks or spills (solid, >50 ppm PCBs), and used transformer/insulating oil (liquid, ≥ 50 ppm PCBs) • Western Steel Cast – Transformers (solid) To the best of PGE's knowledge, after reasonable inquiry, only General Electric and Univar (listed above in **bold**) were identified by PGE as having received waste or used material from the Stephens Substation. In 1991, 1992, and 1994, General Electric Company received obsolete capacitors (solid, metal with petroleum hydrocarbons and PCBs) from Stephens Substation, after interim storage at the Sellwood Substation (a historical PGE waste and material handling facility); see the transport records (Q21a_1991-03_Capacitor Transport.pdf, Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf, Q21a_1992-04_Transformer Transport.pdf) and the hazardous waste manifest (Q21a_1994 Haz Waste Manft.pdf) attached in response to Question 21a. On 22 July 2005, Univar transported approximately 21 kg of PCB-containing debris (solid, with > 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC (a PGE waste and material handling facility); see the document (Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. The other (non-bold) companies listed above have historically received or currently receive waste and/or used materials from the PGE waste and material handling facilities, which may have included waste and/or used material from the Stephens Substation. The Harborton Substation, a historical PGE waste and material handling facility, is within the Investigation Area and is addressed in a separate 104(e) response. Also see the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7).	
d. in general terms, the nature and quantity of the non- hazardous materials	See the response to Question 27c.	

EPA Question	Response	Records/Information Available
involved in each such arrangement;		
e. in general terms, the nature and quantity of any hazardous materials involved in each such arrangement;	See the response to Question 27c.	
f. the owner of the materials involved in each such arrangement, if not Respondent;	Not applicable. PGE was the generator of the waste.	
g. all tests, analyses, analytical results or manifests concerning each hazardous material involved in such transactions;	See the response to Question 27c.	
h. the address(es) for each Property, precise locations at which each material involved in such transactions actually was disposed or treated;	See the response to Question 27a.	
i. the owner or operator of each facility at which hazardous or non-hazardous materials were arranged to be disposed at within the Investigation Area;	See the response to Question 27a.	
j. who selected the location to which the materials were to be disposed or treated;	PGE personnel in charge of environmental matters and consultants selected the location to which materials were disposed or treated. See the response and documents attached for Question 38, as well as the documents attached in response to Question 6g.	See Question 6 Attachments Q06g_Bullseye articles.pdf Q06g_Distribution and System Planning Information.pdf Q06g_HRIC Structure Report 2008.pdf Q06g_HRIS Structure Info 1982-2007.pdf Q06g_Organizational Charts.pdf Also see all Question 38 Attachments
k. who selected the Property as the location at which hazardous materials were to be disposed or treated; and	PGE personnel in charge of environmental matters and consultants selected the location to which materials were disposed or treated. See the response and documents attached for Question 38, as well as the documents attached in response to Question 6g.	See Question 6 Attachments Q06g_Bullseye articles.pdf Q06g_Distribution and System Planning Information.pdf Q06g_HRIC Structure Report 2008.pdf Q06g_HRIS Structure Info 1982-2007.pdf Q06g_Organizational Charts.pdf Also see all Question 38 Attachments
l. any records of such arrangement and each shipment.	See the response to Questions 27a and 27c.	
28. Describe the plants and other buildings or structures where Respondent carried out its operations at each	To the best of PGE's knowledge, after reasonable inquiry and based on the Sanborn maps (Q10_Sanborn Maps.pdf) attached in response to Question 10, the following structures were present on the property from at least 1909 until at least 1924:	See Question 10 Attachment Q10_Sanborn Maps.pdf Also see Question 13 Attachment

EPA Question	Response	Records/Information Available
Property within the Investigation Area (excluding locations where ONLY clerical/office work was performed).	Structures: • Car painting shop • Car repairing shed From sometime after 1924 until sometime prior to 1945, PGE operated a synchronous condenser station on the property, which was associated with the Station L power plant. The synchronous condenser and any related structures were removed by 1945. Sometime prior to 1945, the Stephens Substation property was filled in and the substation was constructed. To the best of PGE's knowledge, after reasonable inquiry and based on the Sanborn maps (Q10_Sanborn Maps.pdf) attached in response to Question 10, the following structures were present on the property from at least 1950 until at least 1969, unless otherwise noted: Structures: • Drag (hoist) house – removed by 1969 • Transformer house (control building) • Transformer stands Substation equipment has been added, removed, and upgraded over the years. In addition to the concrete pulling/sectionalizing vaults and poles described in response to Question 13b and shown in the document (Q13b_Fieldview.pdf) attached in response to Question 13b, the following is a description of the other substation structures currently located at Stephens Substation: Buildings: • Control building – houses medium voltage power equipment, protective relays, communication, telemetry, and control equipment. Structures: • Transmission structure – supports high voltage conductors and switches. • Distribution structure – supports medium voltage conductors and switches. Equipment: • Power circuit breakers – 26 • Power transformer – 11 • Station service transformer – 3 • Metering transformers – 9 • Regulators – 37	Q13b_Fieldview.pdf (CEII[1])
29. Provide a schematic diagram or flow chart that fully describes and/or illustrates the Respondent's operations on each	To the best of PGE's knowledge, after reasonable inquiry, the historical operations on the Property were associated with the car painting shop and car repairing shed (at least 1909 to at least 1924) and the installation, operation, maintenance, and decommissioning of the synchronous condenser (sometime after 1924 until sometime prior to 1945).	Question 29 Attachments Q29_Substation Lifecycle.doc Q29_Opertations-Waste Schematic.xls

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
Property.	Since 1945, PGE operations on the property have been limited to the construction, equipment installation, equipment maintenance, and equipment decommissioning related to the Stephens Substation distribution substation. See the attached documents.	
30. Provide a brief description of the nature of Respondent's operations at each location on each Property including:		
a. the date such operations commenced and concluded; and	To the best of PGE's knowledge, after reasonable inquiry, the historical operations on the Property were associated with the car painting shop and car repairing shed (at least 1909 to at least 1924) and the installation, operation, maintenance, and decommissioning of the synchronous condenser (sometime after 1924 until sometime prior to 1945). Since 1945, PGE operations on the property have been limited to the construction, equipment installation, equipment maintenance, and equipment decommissioning related to the Stephens Substation distribution substation.	
b. the types of work performed at each location, including but not limited to the industrial, chemical, or institutional processes undertaken at each	<u>Historical Operations</u> Historical activities: PGE activities associated with the car painting ship and car repairing shed and later, the operation of a synchronous condenser for the Station L power plant. <u>Distribution Substation Operations</u> Construction activities: Erection of substation structures, excavation, welding, painting, wiring, carpentry, installing equipment, assembly of large equipment. Equipment maintenance activities: Maintenance of substation equipment, generation of maintenance waste, disposal of maintenance waste, and removal of obsolete equipment. Substation activities: Power distribution, operation of equipment, routine maintenance, cleaning, inspection of equipment, minor painting, transfer oil from supply tanks to equipment, transfer of oil between equipment and temporary storage tanks, renewal of lubricants and various consumable fluids, reconfiguration of equipment, upgrade of equipment components, test and calibration of equipment. See the documents attached in response to Question 29, as well as the responses to Questions 5g, 13d, and 13k.	See Question 29 Attachments Q29_Substation Lifecycle.doc Q29_Opertations-Waste Schematic.xls
31. If the nature or size of Respondent's operations changed over time, describe those changes and the dates they occurred.	See responses provided for Questions 5g, 13d, and 13k.	

EPA Question	Response	Records/Information Available
32. List the types of raw materials used in Respondent's operations, the products manufactured, recycled, recovered, treated, or otherwise processed in these operations.	Historical activities: To the best of PGE's knowledge, after reasonable inquiry, no raw materials were used nor were products manufactured, recycled, recovered, treated, or otherwise processed in the historical car painting operations or the historical operation of the synchronous condenser. Substation activities: No raw materials are/were used in the operation of the substation. No products are/were manufactured, recycled, recovered, treated or processed during operation of the substation.	
33. Provide copies of Material Safety Data Sheets (MSDS) for materials used in the Respondent's operations.	The products/materials currently used at PGE properties within Oregon and potentially used at the Stephens Substation are listed in the attached document (Q33_EMC List.pdf). Material Safety Data Sheets (MSDS) for these products/materials are provided in a supplemental submittal (Supplemental Submittal S2). Products/materials used in the past are similar to those used currently.	Question 33 Attachment Q33_EMC List.pdf
34. Describe the cleaning and maintenance of the equipment and machinery involved in these operations, including but not limited to:	Historical Maintenance and Cleaning Activities: To the best of PGE's knowledge, after reasonable inquiry, PGE has no information on the maintenance and cleaning of the synchronous condenser. Substation Maintenance Activities: Routine visual inspections are performed once a month on most of the electrical equipment, including transformers, breakers, switches, regulators, motor operators, meters & relays, and batteries. Lighting systems are visually inspected and operation tests are performed once a month. Inspection of the control systems are performed as needed. Substation Cleaning Activities: Cleaning of electrical equipment varies: large transformers are cleaned annually, breakers are cleaned based on the number of operations and time since the last inspection, switches are cleaned as needed, insulators are cleaned during scheduled outages, regulators are cleaned or replaced as needed, meters & relays are cleaned during routine calibration, batteries are cleaned approximately twice a year, and the non-electrical surfaces of control systems are cleaned during major construction. Please see the attached cleaning and maintenance activities document (Q34_Maintenance Activities.doc) for further details, as well as the response and documents attached for Question 29, and the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a.	Question 34 Attachment Q34_Maintenance Activities.pdf Also see Question 21 Attachment Q21a_Waste Stream Summary.pdf Also see all Question 29 Attachments
a. the types of materials used to clean/maintain this equipment-machinery;	The primary materials that may have been used for equipment maintenance include transformer oil, solvents, denatured alcohol, degreasers, lubricating grease, hydraulic fluid, and paint.	
b. the monthly or annual quantity of each such material used.	The materials used for equipment maintenance are/were not stored on site. To the best of PGE's knowledge, after reasonable inquiry, no detailed logs of exact quantities of maintenance materials used or oil/routine maintenance waste removed from the substations/properties are available.	
c. the types of materials spilled in Respondent's operations;	The materials potentially spilled during operations include oil and fluid from equipment spills or leaks.	

EPA Question	Response	Records/Information Available
d. the materials used to clean up those spills;	The following are PGE general spill response procedures. • Minor equipment spills or leaks are cleaned up using sorbent materials. • Major spills are cleaned up using sorbent materials, berms, and necessary equipment. For further details, see the responses and documents for Question 19 and the response and documents (Q21a_Waste Stream Summary.pdf and Q21c_Cleaning Up Small Mercury Spills 2008.pdf) attached for Question 21. The mercury spill cleanup guide is a general PGE guidance and does not imply that mercury spills have ever occurred at the Stephens Substation.	See all Question 19 Attachments Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21c_Cleaning Up Small Mercury Spills 2008.pdf
e. the methods used to clean up those spills; and	Minor equipment spills or leaks are cleaned up as needed by wiping up the excess oil/fluid with on-hand absorbent materials or removing small areas of gravel/soil. Major spills are immediately reported to the System Control Center. PGE's spill response crew is dispatched to clean up the oil. Soiled material is placed into a marked barrel and disposed of properly. For further details, see the responses and documents for Question 19 and the response and documents (Q21a_Waste Stream Summary.pdf and Q21c_Cleaning Up Small Mercury Spills 2008.pdf) attached for Question 21. The mercury spill cleanup guide is a general PGE guidance and does not imply that mercury spills have ever occurred at the Stephens Substation.	See all Question 19 Attachments Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21c_Cleaning Up Small Mercury Spills 2008.pdf
f. where the materials used to clean up those spills were disposed of.	Materials potentially contaminated with PCBs are sealed in barrels and transferred to PGE's waste and material handling facility (historically at Harborton Substation, Sellwood Substation, or PSC; currently at PSC). If not ascertainable from testing the equipment generating the spill, these wastes are tested to determine a disposal location appropriate for its PCB concentration once they are received at the waste and material handling facility. Materials containing PCBs are disposed at different facilities depending on the concentration of the originally spilled materials, if known, or the concentration in the waste materials. Wastes not contaminated with PCBs are containerized separately and transferred to PGE's waste and material handling facility (historically at Harborton Substation, Sellwood Substation, or PSC; currently at PSC). For further details, see the response and documents for Question 21.	See all Question 21 Attachments
35. Describe the methods used to clean up spills of liquid or solid materials during Respondent's operation.	Minor spills or leaks are cleaned up as they occur. The fluid is wiped up with on-hand absorbent materials and spot removal of oil-stained gravel/soil is conducted. Major spills are immediately reported to the PGE System Control Center. PGE's spill response crew is dispatched to clean up the oil. Soiled material is placed into a marked barrel and disposed of properly. For further details, see the responses and documents for Question 19 and the response and documents (Q21a_Waste Stream Summary.pdf and Q21c_Cleaning Up Small Mercury Spills 2008.pdf) attached for Question 21. The mercury spill cleanup guide is a general PGE guidance and does not imply that mercury spills have ever occurred at Stephens Substation.	See all Question 19 Attachments Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21c_Cleaning Up Small Mercury Spills 2008.pdf
36. For each type of waste (including by-products) from Respondent's operations, including but not limited to all liquids, sludges, and solids, provide the following information:	PGE operational waste varies month to month and year to year. The following is a summary of the type of wastes that were generated historically and are generated from current operations at the Site: Remediation wastes include:	See all Question 15 Attachments Also see all Question 21 Attachments Also see all Question 62 Attachments

EPA Question	Response	Records/Information Available
a. its physical state; b. its nature and chemical composition; c. its color; d. its odor. e. the approximate monthly and annual volumes of each type of waste (using such measurements as gallons, cubic yards, pounds, etc.); and f. the dates (beginning & ending) during which each type of waste was produced by Respondent's operations.	<u>Site Investigation</u> • Soil and asphalt – solid, petroleum hydrocarbon-contaminated soil, black-brown and black-grey, petroleum hydrocarbon odor, 180 tons, 1987 • Soil – solid, petroleum hydrocarbon-contaminated soil, black-brown, petroleum hydrocarbon odor, 20 cubic yards, 1992 <u>Spill Reponses</u> • Soil/gravel/absorbent materials – solid, petroleum hydrocarbon- and/or PCB-containing soil, black-brown, petroleum hydrocarbon odor, various quantities, 1981-2005. For further details regarding known spills at the Stephens Substation, see the response and documents attached for Question 62 General materials/wastes potentially contaminated with PCBs include: • Used/excess lubricants, oils, and other fluids – liquid, petroleum hydrocarbons, various, petroleum hydrocarbon odor, unknown, 1930s-present • Obsolete equipment (e.g., transformers, capacitors) – solid, metal, metallic/petroleum hydrocarbon odor, unknown, 1930s-present • Rags used to clean equipment – solid, fabric material, various, alcohol-petroleum hydrocarbon odor, unknown, 1930s-present • Absorbents used to clean up leaks or spills – solid, absorbent material, various, petroleum hydrocarbon odor, unknown, 1930s-present • Ballasts – solid, metallic, electrical lamp component, various, no odor, unknown, 1930s-present General materials/wastes not contaminated with PCBs include: • Solvents – liquid, oil-based chemical solvents, petroleum hydrocarbon smell, unknown quantity, early 1900s-present • Batteries – solid, alkaline/zinc-carbon/lithium-based batteries, no odor, unknown quantity, early 1900s-present • Scrap metal – solid, metallic (e.g., steel), none to metallic odor, unknown quantity, early 1900s-present • Light bulbs – solid, incandescent and fluorescent light bulbs, no odor, unknown quantity, early 1900s-present • General garbage – mixed, various, various, unknown quantity, early 1900s-present • Construction debris – mixed, various, various unknown quantity, early 1900s-present • Soils removed during excavation for equipment/building demolition/installation – solid, soil, brown, organic odor, unknown, early 1900s-present Also see the MSDS documents provided in a supplemental submittal (Supplemental Submittal S2), documents attached in response to Question 15, and the responses and documents for Question 21. Also see the separate 104(e) response for the Harborton Substation (historically at PGE waste and used material handling facility) and the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7).	

EPA Question	Response	Records/Information Available
37. Provide a schematic diagram that indicates which part of Respondent's operations generated each type of waste, including but not limited to wastes generated by cleaning and maintenance of equipment and machinery and wastes resulting from spills of liquid materials.	See the response and documents for Question 29, as well as the document (Q21a_Waste Stream Summary) attached in response to Question 21a.	See Question 29 Attachments Q29_Substation Lifecycle.doc Q29_Opertaions-Waste Schematic.xls Also see Question 21 Attachment Q21a_Waste Stream Summary.pdf
38. Identify all individuals who currently have and those who have had responsibility for Respondent's environmental matters (e.g. responsibility for the disposal, treatment, storage, recycling, or sale of Respondent's wastes). Also provide each individual's job title, duties, dates performing those duties, supervisors for those duties, current position or the date of the individual's resignation, and the nature of the information possessed by such individuals concerning Respondent's waste management.	See the attached document for a listing of those persons responsible for environmental matters from 1980 to present. See the attached 1993 and 1997 Job Descriptions for Environmental Services Manager. See the attached document for management structural information 1982-2008. Also see the documents attached in response to Question 6g.	Question 38 Attachments Q38_Res. For Environmental Matters.pdf Q38_Mgr. Env. Svc. Job description – 1993.pdf Q38_Mgr. Env. Svc. Job description – 1997.pdf Q38_HRIS Structure Info. 1982-2008-4.0.pdf Also see all Question 6 Attachments
39. For each type of waste describe Respondent's contracts, agreements or other arrangements for its disposal, treatment, or recycling.	In general terms, waste and used material was historically either transferred directly to the disposal facility, or to one of the following PGE waste and used material handling facilities for interim storage: Harborton Substation, Sellwood Substation, PSC, or Wilsonville (only soil/gravel with < 50 ppm PCBs). Currently, in general terms, waste and used materials are either transferred directly to the disposal facility or to one of the following PGE waste and used material handling facilities: PSC or Wilsonville (only soil/gravel with < 50 ppm PCBs). To the best of PGE's knowledge, after reasonable inquiry, the available contracts, agreements, or other arrangements for disposal, treatment, or recycling for this specific facility are provided with the documentation attached in response to Question 21. Waste disposal permits are also attached in response to Question 52. Additional available general PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling are provided in the Harborton Substation 104(e) response, the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7), and the supplemental submittal of general PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling (Supplemental Submittal S6).	See all Question 21 Attachments Also see all Question 52 Attachments

EPA Question	Response	Records/Information Available
40. Provide copies of such contracts and other documents reflecting such agreements or arrangements, including but not limited to: a. state where Respondent sent each type of its waste for disposal, treatment, or recycling; b. identify all entities and individuals who picked up waste from Respondent or who otherwise transported the waste away from Respondent's operations (these companies and individuals shall be called "Waste Carriers" for purposes of this Information Request); c. if Respondent transported any of its wastes away from its operations, please so indicate; d. for each type of waste specify which Waste Carrier picked it up; e. indicate the ultimate disposal/recycling/treatment location for each type of waste. f. provide all documents indicating the ultimate disposal/recycling/treatment location for each type of waste; and g. state the basis for and provide any documents supporting the answer to the previous question.	In general terms, waste and used material was historically either transferred directly to the disposal facility or to one of the following PGE waste and used material handling facilities for interim storage: Harborton Substation, Sellwood Substation, PSC, or Wilsonville (only soil/gravel with < 50 ppm PCBs). Currently, in general terms, waste and used materials are either transferred directly to the disposal facility or to one of the following PGE waste and used material handling facilities: PSC or Wilsonville (only soil/gravel with < 50 ppm PCBs). To the best of PGE's knowledge, after reasonable inquiry, those companies/persons with whom PGE currently has arrangements for disposal/recycling/destruction of wastes and/or used material are listed in the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a. The document summarizes the current various waste stream types, the current initial carrier, the current interim storage (if applicable), the current secondary carrier (if applicable), and the current disposal facility. To the best of PGE's knowledge, after reasonable inquiry, companies/persons with whom PGE has made arrangements for disposal/recycling/destruction of wastes and/or used material for PGE properties in Oregon are listed in the attached document (Q40_Waste-Materials Receivers and Carriers.pdf). The following describes the current waste and used material arrangements at PSC, which would have been similar to the historic waste arrangements at Harborton Substation, Sellwood Substation, and PSC (although it is likely that different contractors/service providers were historically utilized): • Earth Protection Services, Inc. (EPSI) recycles the variety of recyclable waste and used materials from the PSC (i.e., ballasts, batteries, and mercury containing articles). New empty containers are exchanged for the filled containers. If there are any concerns about the integrity of the new containers or any other concerns, PGE's Environmental Services (which processes all EPSI invoices) is called to ensure that the vendor promptly corrects the problem. EPSI is a nationally recognized recycling vendor. • Used transformer/insulating oil (< 1 ppm PCBs) is recycled in house by PGE, by Univar USA Inc, or Transformer Technologies. • Univar picks up and transports used transformer/insulating oil (≥ 50 ppm PCBs) to either Clean Harbors Deer Park or to Clean Harbors Aragonite. In addition, Univar picks up and transports used rags and absorbent material (≥ 50 ppm PCBs) to Arlington Landfill. • Oil-filled obsolete transformers and other electrical equipment (< 50 ppm PCBs) are transported to Transformer Technologies. Oil-filled obsolete transformers and other electrical equipment (≥ 50 ppm PCBs) are sent to either Clean Harbors Deer Park or Clean Harbors Argonite for incineration. Oil-filled ballasts (> 1 ppm PCBs) are sent to Arlington Landfill or Clean Harbors Deer Park. • Used rags and absorbent material (1 to 50 ppm PCBs) is picked up by NRC	Question 40 Attachment Q40_Waste-Materials Receivers and Carriers.pdf Also see all Question 21 Attachments Also see Question 27 Attachment Q27_Waste-Materials Receivers within IA.pdf Also see all Question 52 Attachments

EPA Question	Response	Records/Information Available
	Environmental Services and transported to Columbia Ridge Landfill. • Used transformer/insulating oil (1 to 50 ppm PCBs) is picked up by Transformer Technologies and is incinerated by Transformer Technologies or recycled at Environmental Management of Kansas City. • Non-PCB containing used oil (e.g., hydraulic fluids, compressor oil, and motor oil), used oil filters, and used antifreeze from the maintenance shop are collected in labeled 55-gallon drums and recycled or used for energy recovery by Thermo Fluids. • All parts washers are maintained under license by Safety Kleen which performs monthly service calls. Safety Kleen recycles all used non-hazardous solvents and brake solution, processing the solvent and brake solution for reuse. • Aerosol can drainings are collected in industry standard aerosol can puncturing devices. At PSC, punctured cans are recycled by CalBag Metals Recycling (non-ferrous metal) or Schnitzer Steel (ferrous metal). When the drums are near full, they are sampled by a licensed laboratory to help characterize the waste prior to collection. Other non-PCB-containing scrap metal is also recycled by CalBag Metals Recycling (non-ferrous metal) or Schnitzer Steel (ferrous metal). • Hazardous solvents and paint drainings from aerosol cans are picked up by Veolia Environmental Services and incinerated at Veolia Es Technical Solutions. • Non-PCB-containing used equipment parts (e.g., gaskets, hoses, and air filters), auto parts (brake pads, belts, and air filters), and general trash are picked up by waste management and transported to various waste management landfills. • Drained obsolete equipment (< 50 ppm PCBs) is recycled by Coleman Metals and drained obsolete equipment (50 to 500 ppm PCBs) is disposed of at Arlington Landfill. Soil and gravel removed during excavations (from upgrades, spill response, or remediation) is tested and disposed of appropriately. The soil and gravel are either transported directly from the site to the disposal facility or are transported to Wilsonville (only soil/gravel with < 50 ppm PCBs) and/or PSC for interim storage before bulk disposal at a location dependant upon PCB-content. To the best of PGE's knowledge, after reasonable inquiry, the available contracts, agreements, or other arrangements for disposal, treatment, or recycling for this specific facility are provided with the waste and materials disposal, treatment, and recycling documentation attached in response to Question 21. Waste disposal permits are attached in response to Question 52. Also see the response and document attached in response to Question 27. Additional available general PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling are provided in the Harborton Substation 104(e) response (historically a PGE waste and material handling facility within the Investigation Area), the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7), and the supplemental submittal of general	

EPA Question	Response	Records/Information Available
	PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling (Supplemental Submittal S6).	
41. Describe all wastes disposed by Respondent into Respondent's drains including but not limited to: a. the nature and chemical composition of each type of waste; b. the dates on which those wastes were disposed; c. the approximate quantity of those wastes disposed by month and year; d. the location to which these wastes drained (e.g. septic system or storage tank at the Property, pre-treatment plant, Publicly Owned Treatment Works (POTW), etc.); and e. whether and what pretreatment was provided.	To the best of PGE's knowledge, after reasonable inquiry, other than the stormwater drainage and oil water separator associated with the stormwater control and secondary spill containment system, no other drains are/were present at Stephens Substation. To the best of PGE's knowledge, after reasonable inquiry, no wastes are/were disposed of into the stormwater drainage at Stephens Substation. There are/were no waste treatment/pretreatment facilities at Stephens Substation other than the oil water separator and oil stop vault associated with the stormwater control and secondary spill containment system. For further details on site stormwater, see the responses to Questions 13i, 18, and 19.	
42. Identify any sewage authority or treatment works to which Respondent's waste was sent.	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, there are/were no sewage authority or treatment works to which PGE's waste is/was sent from Stephens Substation.	
43. Describe all settling tank, septic system, or pretreatment system sludges or other treatment wastes resulting from Respondent's operations.	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, there are/were no settling tanks, septic systems, or pretreatment system sludges or other treatment wastes resulting from operations at Stephens Substation.	
44. If applicable, describe the facilities, processes and methods Respondent or Respondent's contractor used, and activities engaged in, either currently or in the past, related to ship building, retrofitting, maintenance or repair, including, but not limited to, dry-docking operations, tank cleaning, painting and re-powering.	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, PGE did not engage in ship building, retrofitting, maintenance, or repair activities at the Stephens Substation.	

EPA Question	Response	Records/Information Available
45. Describe any hazardous substances, wastes, or materials used or generated by the activities described in response to the previous Question and how these hazardous substances, materials and wastes were released or disposed of.	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, PGE did not engage in ship building, retrofitting, maintenance, or repair activities at the Stephens Substation.	
46. Provide copies of any records you have in your possession, custody or control relative to the activities described in response to the previous two Questions.	Not applicable. To the best of PGE's knowledge, after reasonable inquiry, PGE did not engage in ship building, retrofitting, maintenance, or repair activities at the Stephens Substation.	
47. Describe any process or activity conducted on a Property identified in response to Question 4 involving the acquisition, manufacture, use, storage, handling, disposal or release or threatened release of polychlorinated biphenyl(s) ("PCB(s)" or PCB(s)-containing materials or liquids.	<u>Historical Synchronous Condenser Activities</u> To the best of PGE's knowledge, after reasonable inquiry, PGE has no information indicating that synchronous condenser processes or activities conducted at the Property involved PCBs. <u>Stephens Substation Activities</u> In general, PGE replaces PCB-containing or potentially PCB-contaminated equipment (e.g., transformers, capacitors, lamp ballasts, circuit breakers, bushings, and step regulators) with non-PCB oil containing equipment (< 50 ppm PCBs) as they are removed from service. The primary materials that may have been used for equipment maintenance include dielectric fluids (oil) and transformer oil, which may have historically contained PCBs. To the best of PGE's knowledge, after reasonable inquiry, other than minor repairs, electrical equipment maintenance was generally not performed on site. Instead, equipment was taken out of service and transported to PGE's waste and material handling facility for repairs and retrofitting. See the document (Q21a_2008_Oil Filled Equipment.xls) attached in response to Question 21a for the list of oil-filled equipment currently in service at the Stephens Substation. The documents identify the position of the oil-filled equipment, the serial number of the equipment, the year manufactured, the detected PCB concentrations, and the date tested for PCBs, and the total volume of oil. Several of the oil-filled equipment listed in the document are assumed to contain less than 1 ppm PCBs because they were manufactured after 1978. The documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a describe PGE's oil-filled equipment at the Stephens Substation in 1984, 1985, 1986, and 1996. Other oil-filled equipment transportation and disposal documents, including drained oil, include: • The documents (Q21a_1991-03_Capacitor Transport.pdf, Q21a_1991-03_CT-PT Transport.pdf, Q21a_1991-04_Capacitor Transport.pdf, Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf, Q21a_1992-04_Transformer Transport.pdf, and	See Question 15 Attachments Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Q15_1998-04-21_OAL.pdf Q15_2004-01-14_NCA.pdf Q15_2004-01-22_NCA.pdf Q15_2004-08-04_NCA.pdf Q15_2006-09-12_TestAmerica.pdf Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_2008_Oil Filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Q21a_1998-10-08_Drained Oil Lab Results.pdf Q21a_2002-3-35_Bushings Lab Results.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf

EPA Question	Response	Records/Information Available
	Q21a_1993-09_Capacitor Transport.pdf) attached in response to Question 21 are general transport documents for non-leaking capacitors (oil-filled capacitors) removed from the Stephens Substation between 1991 and 1993. To the best of PGE's knowledge, after reasonable inquiry and based on the transportation documents, all of these obsolete capacitors were transported to Sellwood Substation (a waste and materials handling facility) for interim storage. These documents indicated that at least some of the capacitors were subsequently transported to General Electric for disposal. • The document (Q21a_1994 Haz Waste Manft.pdf) attached to Question 21a includes the hazardous waste manifests for the disposal of PCB-containing oil. This waste was transported by PGE to General Electric Company. • The document (Q21a_1998-10-08_Drained Oil Lab Results.pdf) attached to Question 21a records the status and PCB concentration of three transformers formerly at Stephens Substation. Containing oil with PCB concentrations between 3 and 75 ppm, these transformers were drained (approximately 1999) and sold or junked. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing oil was likely recycled or incinerated at Transformer Technologies, Clean Harbors Deer Park, or Environmental Management of KC Inc. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the drained equipment was likely recycled at Coleman Metals or disposed of at Arlington Landfill. • The document (Q21a_2002-3-35_Bushings Lab Results.pdf) attached in response to Question 21a indicates that Coleman Metals picked up drained bushings from Sellwood and Stephens Substations on 6 April 2002. According to the provided laboratory reports, these bushings did not have detectable PCB concentrations. • The document (Q21a_2005 Haz Waste Manft Lqd.pdf) attached in response to Question 21a includes the hazardous waste manifest for the disposal of approximately 2,800 kg of oil containing 50 to 499 ppm of PCBs from the Stephens Substation in July/August 2005. This oil was transported by Univar USA Inc to Onyx Environmental Services where it was incinerated. To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the known remediation activities conducted at Stephens Substation associated with the releases of PCB-containing oil: • April 1 or 7, 1981 – A capacitor spilled approximately 1 gallon of PCB-containing oil onto gravel and soil. PGE personnel reported, contained, and cleaned up the spill. See the documents (Q62_04-07-1981_Spill Report.pdf and Q62_Spill Database List_Stephens.pdf) attached in response to Question 62. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached to Question 21, the PCB-containing soil/gravel was likely disposed of at the Arlington Landfill after interim storage at the Sellwood Substation (a PGE waste and material handling facility).	Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2004-08-13_Disposal Permit and Profile.pdf Q21a_2005 Haz Waste Manft Lqd.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see Question 29 Attachments Q29_Substation Lifecycle.doc Q29_Opertaions-Waste Schematic.xls Also see all Question 62 Attachments

EPA Question	Response	Records/Information Available
	• 1986/1987 – During the site investigation of the western third of Stephens Substation, PCB-containing soil and asphalt were discovered around the equipment. In late 1987, approximately 180 tons of material (soil and asphalt) were removed and disposed of at Arlington Landfill. For further information, see the document (Q21a_1987 Haz Waste Manfts.pdf) attached in response to Question 21a, the documents (Q62_1987-07 Excavation Daily Reports.pdf and Q62_1987-08-20 Excavation Daily Report.pdf) attached in response to Question 62, and the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf) attached in response to Question 15. • 1992 – During the site investigation of the eastern two-thirds of Stephens Substation (switchyard and side yard), PCB-containing soil was discovered around the equipment in the side yard. Approximately 20 cubic yards of PCB-containing soil were removed and disposed of at Arlington Landfill. Appendix H in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data). • July 30, 2002 – A regulator spilled approximately 2 gallons of oil containing 21 ppm of PCBs onto concrete and gravel. PGE personnel cleaned up the spill by cleaning the concrete and removing approximately 0.5 cubic yards of gravel. See the document (Q62_2002-7-30_Spill Report.pdf) attached in response to Question 62. The gravel was transferred to Wilsonville for interim storage prior to disposal. To the best of PGE's knowledge, after reasonable inquiry and based on the documents (Q21a_2002 NonHaz WAL & Profile.pdf and Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing gravel was likely disposed of at the Columbia Ridge Landfill in August 2002. • July 22, 2005 – Univar picked up and transported approximately 21 kilograms of PCB-containing soil and debris (> 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC. See the document (Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. Construction activities that involved the excavation of soils that were found to contain low concentrations of PCBs from an unknown source include: • April 1998 – Columbia Ridge Landfill approved PGE's request to dispose of approximately 20 cubic yards of soil and debris containing 0.4 ppm PCBs which were removed in order to pour footings for new equipment at Stephens Substation. See the document (Q21a_1998-04-30_Waste Approval.pdf) attached in response to Question 21a. • August 1998 – PGE requested permission to dispose of approximately 100 cubic yards or 150 tons of soil and debris containing 0.4 ppm PCBs. See the document (Q21a_1998-08-19_Waste Approval Request.pdf) attached in response to Question 21a. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing soil/gravel was likely disposed of at the Hillsboro Landfill or Columbia Ridge Landfill after	

EPA Question	Response	Records/Information Available
	interim storage at a PGE waste and material handling facility. • August to November 2004 – PGE received a permit to dispose of up to 100 tons of soil, gravel, and miscellaneous debris containing 0.116 to 1.37 ppm PCBs at Hillsboro Landfill. This material was generated by construction work at Stephens Substation. See the document (Q21a_2004-08-13_Disposal Permit and Profile.pdf) attached in response to Question 21a. Soil and equipment testing have also been conducted, as needed, in conjunction with various improvements/maintenance activities at the Site, as well as in response to equipment spills. This testing has periodically uncovered limited areas of PCB contamination. When found, these areas were cleaned up and contaminated material was disposed properly. Verification sampling was conducted to confirm cleanup. See the available soil and equipment testing documents (Q15_1998-04-21_OAL.pdf, Q15_2004-01-14_NCA.pdf, Q15_2004-01-22_NCA.pdf, Q15_2004-08-04_NCA.pdf, and Q15_2006-09-12_TestAmerica.pdf) attached in response to Question 15. For further information on substation spills, see the response and documents attached for Question 62. Also see the documents attached in response to Question 29, and the annual PCB reports (1978-2008) for PGE (all PGE sites combined), which are provided in a supplemental submittal (Supplemental Submittal S3).	
48. For each process or activity identified in response to the previous Question, describe the dates and duration of the activity or process and the quantity and type of PCB(s) or PCB(s) containing materials or liquids.		
a. the manufacturer and serial number of each transformer; b. the quantity of oil in each transformer; c. the concentrations of PCB contained in the transformer oil; d. the time period or periods in which these transformers were sent to the Property;	<u>Historical Synchronous Condenser Activities</u> To the best of PGE's knowledge, after reasonable inquiry, PGE has no indication that the synchronous condenser processes or activities conducted at the Property involved PCBs. <u>Stephens Substation Activities</u> Equipment was first installed at the Stephens Substation when the substation was constructed (sometime prior to 1945). Since that time, some equipment has been installed, upgraded, and replaced. See the document (Q21a_2008_Oil Filled Equipment.xls) attached in response to Question 21a for the list of oil-filled substation equipment currently in service at the Stephens Substation. The document identifies the position of the oil-filled equipment, the serial number of the equipment, the year manufactured, the detected PCB concentrations, the test date for PCBs, and the total volume of oil. Several pieces of the oil-filled equipment listed in the document (Q21a_2008_Oil Filled Equipment.xls) attached in response to Question 21a are assumed to contain less than 1 ppm PCBs because they were manufactured after 1978. Also see the documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a for the list of oil-filled equipment at the Stephens Substation in 1984, 1985, 1986, and 1996.	See Question 21 Attachments Q21a_2008_Oil filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf

EPA Question	Response	Records/Information Available
e. details about how each transformer was handled or stored or otherwise processed;	Equipment is handled by trained qualified personnel. Equipment is energized and in service. Obsolete equipment is drained prior to disposal/recycling, if possible. Drained oil is incinerated or recycled, depending on its PCB content. Obsolete equipment may be transferred to a PGE waste and used materials handling facility for interim storage prior to disposal/recycling. The obsolete equipment is incinerated, landfill disposed, or recycled based on PCB content and structural composition. See the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a. Some used, but not obsolete, transformers have been sold to other companies/persons. These are documented in Supplemental Submittal S7 (documentation from facilities that may have received waste and materials from properties within the Investigation Area). For further information, see the response to Questions 21, 27, and 40. Also see the separate 104(e) response for the Harborton Substation, which was also historically a PGE waste and material handling facility and the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7).	See Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_1998-10-08_Drained Oil Lab Results.pdf Q21a_2002-3-35_Bushings Lab Results.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf
f. information describing the contractual relationship Respondent had, if any, with owners or users of the respective transformers, including but not limited to, liability for disposal;	Not applicable. Equipment is owned by PGE.	
g. information on any other oil filled electrical equipment at the Property, and;	See the document (Q21a_2008_Oil filled Equipment.xls) attached in response to Question 21a, which list the current oil-filled equipment at Stephens Substation. Also see the documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a for the list of oil-filled equipment at the Stephens Substations in 1984, 1985, 1986, and 1996. Also see the equipment transfer documents attached in response to Question 21a.	See Question 21 Attachments Q21a_2008_Oil filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf
h. complete copies of any contracts, invoices, receipts, or other documents related to the transformers or other oil filled electrical equipment to the Property.	To the best of PGE's knowledge, after reasonable inquiry, the available contracts, agreements, or other arrangements for disposal, treatment, or recycling for this specific facility are provided with the waste and materials disposal, treatment, and recycling documentation attached in response to Question 21. Waste disposal permits are attached in response to Question 52. Additional available general PGE contracts, agreements, or other arrangements for disposal, treatment, or recycling are provided in the Harborton Substation 104(e) response, the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from the Stephens Substation (Supplemental Submittal S7), and the supplemental submittal of general PGE contracts, agreements, or other arrangements for	See Question 21 Attachments Q21a_2008_Oil filled Equipment.xls Q21a_1998-10-08_Drained Oil Lab Results.pdf Q21a_2002-3-35_Bushings Lab Results.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf

EPA Question	Response	Records/Information Available
	disposal, treatment, or recycling (Supplemental Submittal S6).	Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf Also see all Question 52 Attachments
49. For each process or activity identified in response to the previous two Questions, identify the location of the process or activity on the Property.	See the document (Q21a_2008_Oil filled Equipment.xls) attached in response to Question 21a which lists the current oil-filled equipment currently in service at Stephens Substation. The document identifies the position of the oil-filled equipment, the serial number of the equipment, the year manufactured, the detected PCB concentrations, the test date for PCBs, and the total volume of oil. Also see the documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a for the list of oil-filled equipment at the Stephens Substation in 1985, 1986, and 1996. To the best of PGE's knowledge, after reasonable inquiry, PGE is not aware of any other processes or activities on the property, either currently or historically. Also see the documents attached in response to Question 19, which include figures that show the location of oil filled equipment.	See Question 21 Attachments Q21a_2008_Oil filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Also see all Question 19 Attachments
Section 5.0 - Regulatory Information		
50. Identify all federal, state and local authorities that regulated the owner or operator of each Property and/or that interacted with the owner or operator of each Property. Your response is to address all interactions and in particular all contacts from agencies/departments that dealt with health and safety issues and/or environmental concerns.	The primary federal, state and local agencies that have regulated PGE at this Site include: • City of Portland (including Bureau of Environmental Services, fire, medical, and police): building safety inspections, facility enhancements, sewer connections, notification of spills • Oregon Department of Environmental Quality (DEQ): spills, product/waste disposal, facility enhancements • U.S. Environmental Protection Agency (EPA): for Portland Harbor Superfund Site, Resource Conservation and Recovery Act (RCRA), and Toxic Substances Control Act (TSCA) Regarding health and safety concerns, interaction with the following agencies would occur as a result of a compliance inspection, a consultation visit or during the course of an accident investigation (contact with the OPUC would occur if an accident of a certain severity occurred at a site): • Federal Occupational Safety and Health Administration (OSHA) • Oregon Occupational Safety and Health Administration (OrOSHA) • Oregon Public Utility Commission (OPUC) • Oregon Department of Transportation (ODOT) • Federal Energy Regulatory Commission (FERC) In 1991, PGE participated in at least meetings with OMSI and the City of Portland Bureau of Environmental Services regarding stormwater sewer improvements at the Stephens Substation. The minutes of these meetings indicate the discussion was focused on cost, project strategy, and coordination between interested parties; see the attached documents (Q50_1991-01-22_SW Minutes with BES.pdf and Q50_1991-06-20_SW Minutes with BES.pdf). In addition, PGE participated in meeting with OMSI about the modifications of Stephens Substation, which OMSI was requesting; see the attached documents (Q50_OMSI meeting Feb 1991.pdf and	Question 50 Attachments Q50_1991-01-22_SW Minutes with BES.pdf Q50_1991-06-20_SW Minutes with BES.pdf Q50_OMSI meeting Feb 1991.pdf Q50_OMSI status report 1990.pdf Q50_1991-12-31_Meeting Notes on Stephens Sub.pdf Q50_2005 ODOT Easement Corres.pdf Also see Question 7 Attachment Q07_2005 Easement for Drainage.pdf

EPA Question	Response	Records/Information Available
	Q50_OMSI status report 1990.pdf). In the early 1990s, PGE participated in meetings and corresponded with the Oregon DEQ regarding the remedial investigations and activities at the Station L, including the remedial investigations and activities at Stephens Substation. See the attached meeting notes on Stephens Substation (Q50_1991-12-31_Meeting Notes on Stephens Sub.pdf). Also see the regulatory agency correspondence attached in the separate 104(e) response for Station L, some of which may also be related to Stephens Substation. In October 2005, PGE corresponded with the Oregon Department of Transportation regarding their request for a drainage easement on the southeast portion of the property. See the attached document (Q50_2005 ODOT Easement Corres.pdf) and the document (Q07_2005 Easement for Drainage.pdf) attached in response to Question 7.	
51. Describe all occurrences associated with violations, citations, deficiencies. and/or accidents concerning each Property during the period being investigated related to health and safety issues and/or environmental concerns. Provide copies of all documents associated with each occurrence described.	To the best of PGE's knowledge, after reasonable inquiry, PGE has not had any environmental related violations/citations/deficiencies for Stephens Substation. For spills/discharges, please see the response to Question 62. PGE maintains records of all OSHA accidents and injuries; however, the records are not categorized or searchable by property. To the best of PGE's knowledge, after reasonable inquiry, PGE does not know if any OSHA reportable accidents/injuries have occurred at Stephens Substation.	
52. Provide a list of all local, state and federal environmental permits ever issued to the owner or operator on each Property (e.g., RCRA permits. NPDES permits, etc.). Please provide a copy of each federal and state permit, and the applications for each permit, ever issued to the owner or operator on each Property.	The Stephens Substation does not have any current environmental permits. The Stephens Substation has non-environmental permits for disposal at landfills. See the non-hazardous waste documents attached in response to Question 21a (Q21a_2004-12-30_Disposal Permit and Profile.pdf and Q21a_2004-08-13_Disposal Permit and Profile.pdf). Also see the attached general PGE disposal permits (Q52_01.pdf and Q52_02.pdf), for which specific contributions from substations are not indicated. A component of the waste disposed under these permits may have originated from Stephens Substation.	Question 52 Attachments Q52_01.pdf Q52_02.pdf Also see Question 21 Attachments Q21a_2004-08-13_Disposal Permit and Profile.pdf Q21a_2004-12-30_Disposal Permit and Profile.pdf
53. Did the owner or operator ever file a Hazardous Waste Activity Notification under the RCRA? If so, provide a copy of such notification.	To the best of PGE's knowledge, after reasonable inquiry, PGE never filed a Hazardous Waste Activity Notification under RCRA for the Stephens Substation. Hazardous materials from Stephens Substation have been disposed of after interim storage at a PGE waste and material handling facility (e.g., the PSC and Sellwood Substation). Also see the 104(e) response for Harborton Substation, which is within the Investigation Area and was historically a PGE waste and material handling facility, and the supplemental submittal of	

EPA Question	Response	Records/Information Available
	documentation from other PGE facilities that may have received waste and materials from Stephens Substation (Supplemental Submittal S7).	
54. Did the owner or operator's facility on each Property ever have "interim status" under the RCRA? If so, and the facility does not currently have interim status; describe the circumstances under which the facility lost interim status.	Not applicable. No application was made for "interim status."	
55. Provide all RCRA Identification Numbers issued to Respondent by EPA or a state for Respondent's operations.	To the best of PGE's knowledge, after reasonable inquiry, no RCRA Identification Numbers have been issued for the Stephens Substation. The EPA ID ORD980665376, listed on the hazardous waste manifests attached in response to Question 21a, is for the PSC, a PGE waste and handling facility used for interim storage of waste prior to disposal/recycling.	See Question 21 Attachments Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_2005 Haz Waste Manft Lqd.pdf Q21a_2005 Haz Waste Manft Solid.pdf
56. Identify all federal offices to which Respondent has sent or filed hazardous substance or hazardous waste information. State the years during which such information was sent/filed.	Information concerning toxic waste/material (PCB-containing material and waste) from Stephens Substation was filed under TSCA in 1987, 1994, and 2005. The EPA ID ORD980665376, listed on the hazardous waste manifests attached in response to Question 21a, is for the PSC, a PGE waste and handling facility used for interim storage of waste prior to disposal/recycling. See the documents (Q21a_1987 Haz Waste Manfts.pdf, Q21a_1994 Haz Waste Manft.pdf, Q21a_2005 Haz Waste Manft Lqd.pdf, and Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. Hazardous materials from Stephens Substation, if any, has been disposed of after interim storage at a PGE waste and material handling facility (e.g., PSC). See the 104(e) response for Harborton Substation, which is within the Investigation Area and was historically a PGE waste and material handling facility, and the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from Stephens Substation (Supplemental Submittal S7).	See Question 21 Attachments Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_2005 Haz Waste Manft Lqd.pdf Q21a_2005 Haz Waste Manft Solid.pdf
57. Identify all state offices to which Respondent has sent or filed hazardous substance or hazardous waste information. State the years during which such information was sent/filed.	To the best of PGE's knowledge, after reasonable inquiry, information concerning toxic waste/material (PCB-containing material and waste) from Stephens Substation was reported to the Oregon DEQ during the Voluntary Cleanup of Station L. See the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, as well as the documents (Q21a_1987 Haz Waste Manfts.pdf and Q21a_1994 Haz Waste Manft.pdf) attached in response to Question 21a. Hazardous materials from Stephens Substation, if any, has been disposed of after interim storage at a PGE waste and material handling facility (e.g., PSC). See the 104(e) response for Harborton Substation, which is within the Investigation Area and was historically a PGE waste and material handling facility, and the supplemental submittal of documentation from other PGE facilities that may have received waste and materials from Stephens Substation (Supplemental	See Question 15 Attachment 15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 21 Attachment Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf

EPA Question	Response	Records/Information Available
	Submittal S7).	
58. List all federal and state environmental laws and regulations under which Respondent has reported federal or state governments, including but not limited to: Toxic Substances Control Act, 15 U.S.C. Sections 2601 et seq., (TSCA); Emergency Planning and Community Right-to-Know Act, 42 U.S.C. Sections 1101 et seq., (EPCRA); and the Clean Water Act (the Water Pollution Prevention and Control Act), 33 U.S.C. Sections 1251 et seq., Oregon Hazardous Substance Remedial Action Law, ORS 465.315, Oregon Water Quality law, ORS Chapter 468(b), Oregon Hazardous Waste and Hazardous Materials law, ORS Chapters 465 and 466, or Oregon Solid Waste law, ORS Chapter 459. Provide copies of each report made, or if only oral reporting was required, identify the federal and state offices to which such report was made.	The federal and state environmental laws and regulations under which PGE has reported to federal and state governments include TSCA, Oregon Hazardous Substance Remedial Action Law, Oregon Hazardous Waste and Hazardous Materials Law, Oregon Solid Waste Law, and the state fire code.	
59. Provide a copy of any registrations, notifications, inspections or reports required by the Toxic Substances Control Act, 15 USC § 2601 et seq., or state law, to be maintained or submitted to any government agency, including fire marshal(s), relating to PCB(s) or PCB(s) containing materials or liquids on any Property identified in response to Question 4.	Annual PCB reports (1978-2008) for PGE (all PGE sites combined) are maintained in compliance with record-reporting rule 40 CFR 761 and are provided in a supplemental submittal (Supplemental Submittal S3).	

EPA Question	Response	Records/Information Available
60. Has Respondent or Respondent's contractors, lessees, tenants, or agents ever contacted, provided notice to, or made a repot to the Oregon Department of State Lands ("DSL") or any other state agency concerning an incident, accident, spill, release, or other event involving Respondent's leased state aquatic lands? If so, describe each incident, accident, spill, release, or other event and provide copies of all communications between Respondent or its agents and DSL or the other state agency and all documents that were exchanged between Respondent, its agents and DSL or other stale agency.	To the best of PGE's knowledge, after reasonable inquiry, no. The Stephens Substation is not adjacent to the Willamette River.	
61. Describe all notice or reporting requirements to DSL that you had under an aquatic lands lease or slate law or regulation regarding incidents affecting, or activities or operations occurring on leased aquatic lands. Include the nature of the matter required to be reported and the office or official to whom the notice or report went to. Provide copies of all such notices or reports.	To the best of PGE's knowledge, after reasonable inquiry, none. The Stephens Substation is not adjacent to the Willamette River.	
Section 6.0 - Releases and Remediation		
62. Identify all leaks, spills, or releases into the environment of any waste, including petroleum, hazardous substances, pollutants, or contaminants, that have occurred at or from each Property, which includes any aquatic lands owned or leased by Respondent. In addition, identify and provide copies of any documents regarding: a. when such releases occurred;	To the best of PGE's knowledge, after reasonable inquiry, the attached documents provide information describing the known leaks, spills, or releases into the environment at Stephens Substation. The following summary incorporates all known and available information with respect to specific releases that have occurred at Stephens Substation: • April 1 or 7, 1981 – A capacitor spilled approximately 1 gallon of PCB-containing oil onto gravel and soil. PGE personnel reported, contained, and cleaned up the spill. See the attached documents (Q62_04-07-1981_Spill Report.pdf and Q62_Spill Database List_Stephens.pdf). To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached to Question 21, the PCB-containing soil/gravel was likely disposed of at the Arlington Landfill after interim storage at the Sellwood Substation (a PGE waste and material handling facility).	

EPA Question	Response	Records/Information Available
b. how the releases occurred (e.g. when the substances were being stored, delivered by a vendor, transported or transferred (to or from any tanks. drums, barrels, or recovery units). and treated); c. the amount of each hazardous substances, pollutants, or contaminants so released; d. where such releases occurred; e. any and all activities undertaken in response to each such release or threatened release, including the notification of any agencies or governmental units about the release; f. any and all investigations of the circumstances, nature, extent or location of each release or threatened release including, the results of any soil, water (ground and surface), or air testing undertaken; g. all persons with information relating to these releases; and h. list all local, state, or federal departments or agencies notified of the release, if applicable;	• 1986/1987 – During the site investigation of the western third of Stephens Substation, PCB-containing soil and asphalt were discovered around the equipment. In late 1987, approximately 180 tons of material (soil and asphalt) were removed and disposed of at Arlington Landfill. For further information, see the attached documents (Q62_1987-07 Excavation Daily Reports.pdf and Q62_1987-08-20 Excavation Daily Report.pdf), the document (Q21a_1987 Haz Waste Manfts.pdf) attached in response to Question 21a, and the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf) attached in response to Question 15. • 1992 – During the site investigation of the eastern two-thirds of Stephens Substation (switchyard and side yard), PCB-containing soil was discovered around the equipment in the side yard. Approximately 20 cubic yards of PCB-containing soil were removed and disposed of at Arlington Landfill. Appendix H in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data). • July 30, 2002 – A regulator spilled approximately 2 gallons of oil containing 21 ppm of PCBs onto concrete and gravel. PGE personnel cleaned up the spill by cleaning the concrete and removing approximately 0.5 cubic yards of gravel. See the attached document (Q62_2002-7-30_Spill Report.pdf). The gravel was transferred to Wilsonville for interim storage prior to disposal. To the best of PGE's knowledge, after reasonable inquiry and based on the documents (Q21a_2002 NonHaz WAL & Profile.pdf and Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing gravel was likely disposed of at the Columbia Ridge Landfill in August 2002. • July 22, 2005 – Univar picked up and transported approximately 21 kilograms of PCB-containing soil and debris (> 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC. See the document (Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. Construction activities that involved the excavation of soils that were found to contain low concentrations of PCBs from an unknown source include: • April 1998 – Columbia Ridge Landfill approved PGE's request to dispose of approximately 20 cubic yards of soil and debris containing 0.4 ppm PCBs which were removed in order to pour footings for new equipment at Stephens Substation. See the document (Q21a_1998-04-30_Waste Approval.pdf) attached in response to Question 21a. • August 1998 – PGE requested permission to dispose of approximately 100 cubic yards or 150 tons of soil and debris containing 0.4 ppm PCBs. See the document (Q21a_1998-08-19_Waste Approval Request.pdf) attached in response to Question 21a. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing soil/gravel was likely disposed of at the Hillsboro Landfill or Columbia Ridge Landfill after interim storage at a PGE waste and material handling facility.	Question 62 Attachments Q62_Spill Database List_Stephens.pdf Q62_04-07-1981_Spill Report.pdf Q62_1987-07 Excavation Daily Reports.pdf Q62_1987-08-20 Excavation Daily Report.pdf Q62_2002-7-30_Spill Report.pdf Also see Question 15 Attachments Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_1987 Haz Waste Manfts.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2005 Haz Waste Manft Solid.pdf Q21a_2004-08-13_Disposal Permit and Profile.pdf

EPA Question	Response	Records/Information Available
	• August to November 2004 – PGE received a permit to dispose of up to 100 tons of soil, gravel, and miscellaneous debris containing 0.116 to 1.37 ppm PCBs at Hillsboro Landfill. This material was generated by construction work at Stephens Substation. See the document (Q21a_2004-08-13_Disposal Permit and Profile.pdf) attached in response to Question 21a.	
63. Was there ever a spill, leak, release or discharge of waste, including petroleum, or hazardous substances, pollutant or contaminant into any subsurface disposal system or floor drain inside or under a building on the Property? If the answer to the preceding question is anything but an unqualified "no", identify:	To the best of PGE's knowledge, after reasonable inquiry, PGE has no knowledge of waste disposal or of any spills, leaks, releases, or discharges of waste into subsurface disposal system or floor drains at the Stephens Substation.	
a. where the disposal system or floor drains were located;		
b. when the disposal system or floor drains were installed;		
c. whether the disposal system or floor drains were connected to pipes;		
d. where such pipes were located and emptied;		
e. when such pipes were installed;		
f. how and when such pipes were replaced. or repaired; and		
g. whether such pipes ever leaked or in any way released such waste or hazardous substances into the environment.		
64. Has any contaminated soil ever been excavated or removed from the Property? Unless the answer to the preceding question is anything besides an unequivocal "no", identify and provide copies of any documents regarding:		
a. amount of soil excavated;	To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the known amount of soil excavated at Stephens Substation:	

EPA Question	Response	Records/Information Available
	• April 1 or 7, 1981 – A capacitor spilled approximately 1 gallon of PCB-containing oil onto gravel and soil. PGE personnel reported, contained, and cleaned up the spill. See the documents (Q62_04-07-1981_Spill Report.pdf and Q62_Spill Database List_Stephens.pdf) attached in response to Question 62. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached to Question 21, the PCB-containing soil/gravel was likely disposed of at the Arlington Landfill after interim storage at the Sellwood Substation (a PGE waste and material handling facility). • 1986/1987 – During the site investigation of the western third of Stephens Substation, PCB-containing soil and asphalt were discovered around the equipment. In late 1987, approximately 180 tons of material (soil and asphalt) were removed and disposed of at Arlington Landfill. For further information, see the document (Q21a_1987 Haz Waste Manfts.pdf) attached in response to Question 21a, the documents (Q62_1987-07 Excavation Daily Reports.pdf and Q62_1987-08-20 Excavation Daily Report.pdf) attached in response to Question 62, and the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf) attached in response to Question 15. • 1992 – During the site investigation of the eastern two-thirds of Stephens Substation (switchyard and side yard), PCB-containing soil was discovered around the equipment in the side yard. Approximately 20 cubic yards of PCB-containing soil were removed and disposed of at Arlington Landfill. Appendix H in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data). • April 1998 – Columbia Ridge Landfill approved PGE's request to dispose of approximately 20 cubic yards of soil and debris containing 0.4 ppm PCBS which were removed in order to pour footings for new equipment at Stephens Substation. See the document (Q21a_1998-04-30_Waste Approval.pdf) attached to Question 21a. • August 1998 – PGE requested permission to dispose of approximately 100 cubic yards or 150 tons of soil and debris containing 0.4 ppm PCBs. See the document (Q21a_1998-08-19_Waste Approval Request.pdf) attached in response to Question 21a. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing soil/gravel was likely disposed of at the Hillsboro Landfill or Columbia Ridge Landfill after interim storage at a PGE waste and material handling facility. • July 30, 2002 – A regulator spilled approximately 2 gallons of oil containing 21 ppm of PCBs onto concrete and gravel. PGE personnel cleaned up the spill by cleaning the concrete and removing approximately 0.5 cubic yards of gravel. See the document (Q62_2002-7-30_Spill Report.pdf) attached in response to Question 62. The gravel was transferred to Wilsonville for interim storage prior to disposal. To the best of PGE's knowledge, after reasonable inquiry and based on the documents (Q21a_2002 NonHaz WAL & Profile.pdf and Q21a_Waste Stream Summary.pdf) attached in response to	See Question 15 Attachments Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 21 Attachments Q21a_1987 Haz Waste Manfts.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2004-08-13_Disposal Permit and Profile.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see all Question 62 Attachments

EPA Question	Response	Records/Information Available
	Question 21a, the PCB-containing gravel was likely disposed of at the Columbia Ridge Landfill in August 2002. • August to November 2004 – PGE received a permit to dispose of up to 100 tons of soil, gravel, and miscellaneous debris containing 0.116 to 1.37 ppm PCBs at Hillsboro Landfill. This material was generated by construction work at Stephens Substation. See the document (Q21a_2004-08-13_Disposal Permit and Profile.pdf) attached in response to Question 21a. See the response and documents attached for Questions 15, 21, and 62.	
b. location of excavation presented on a map or aerial photograph;	The locations of soil removed in 1987 and 1992 are shown in Figures 4-1 and 4-4, respectively, in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15. To the best of PGE's knowledge, after reasonable inquiry, there are no maps, photographs, or figures that depict the locations of the other contaminated soil and/or gravel removed from the Stephens Substation, which are discussed in Question 64a above.	See Question 15 Attachments Q15_1994-08_Phase III_SIR-Stephens.pdf
c. manner and place of disposal and/or storage of excavated soil;	Soil and gavel have been disposed of, as needed, in conjunction with various improvements/maintenance activities at the Site, as well as in response to equipment spills. Soils are tested, as needed, and disposed properly. To the best of PGE's knowledge, after reasonable inquiry, PGE was unable to locate disposal documentation for contaminated soil removal other than those described in response to Question 64a and attached for Questions 21, 52, and 62. Also see the annual PCB reports for PGE (all PGE sites combined) provided in a supplemental submittal (Supplemental Submittal S3).	See all Question 21 Attachments Also see all Question 52 Attachments Also see all Question 62 Attachments
d. dates of soil excavation;	See the response to Question 64a.	
e. identity of persons who excavated or removed the soil, if other than a contractor for Respondent;	To the best of PGE's knowledge, after reasonable inquiry, soil and gravel removals were performed by personnel from PGE's EM&C construction department. The PGE EM&C construction department foremen include Dan Loftin and Tim Danchok; other PGE EM&C personnel have changed over time.	
f. reason for soil excavation;	Soil excavation at the Stephens Substation has occurred from construction activities and in response to equipment spills.	
g. whether the excavation or removed soil contained hazardous substances, pollutants or contaminants, including petroleum, what constituents the soil contained, and why the soil contained such constituents;	See the responses to Questions 64a and 64c, which include the available information on type constituents contaminating the soil/gravel and why the soil/gravel contained those constituents.	
h. all analyses or tests and results of analyses of the soil that was removed from the Property;	Soil has been disposed of, as needed, in conjunction with various improvements/maintenance activities at the Stephens Substation, as well as in response to equipment spills. The available analytical results from soil/gravel testing at the Stephens Substation are attached in response to Question 15. To the best of PGE's knowledge, after reasonable inquiry, PGE was unable to locate results of	See all Question 15 Attachments

EPA Question	Response	Records/Information Available
	analysis of any removed soil other than those attached in response to Question 15.	
i. all analyses or tests and results of analyses of the excavated area after the soil was removed from the Property; and	In general, spills are cleaned up to remove all visible contamination plus 1 foot laterally. See the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf), attached in response to Question 15, for the results of the soil analysis in 1987. See Appendices H and I of the document (Q15_1994-08_Phase III_SIR-Stephens.pdf), attached in response to Question 15, for the results and data for the soil analysis in 1992. Also see the other documents attached in response to Question 15.	See all Question 15 Attachments
j. all persons, including contractors, with information about (a) through (i) of this request.	Multiple individuals have had authority within PGE to access and conduct activities on the Stephens Substation. These are listed on documents attached in response to Question 6g. Also see the documents attached in response to Question 38, for PGE personnel responsible for environmental matters from 1980 – present. Some soil removals were performed by personnel from PGE's EM&C construction department. The PGE EM&C construction department foremen include Dan Loftin and Tim Danchok; other PGE EM&C personnel have changed over time. In addition, the contractors identified in response to Question 6b may also have information relevant to this request.	Also see all Question 6g Attachments Also see all Question 38 Attachments
65. Have you ever tested the groundwater under your Property? If so, please provide copies of all data, analysis, and reports generated from such testing.	As part of site investigations, groundwater has been tested under the property. See the response to Question 13h and the response and documents (Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf, Q15_1988-05-09_Station L GW Report.pdf, Q15_1992-07_Phase III_GW Invest WP.pdf, and Q15_1994-08_Phase III_SIR-Stephens.pdf) attached for Question 15. Although groundwater sample collected from well W-3 exceeded the EPA Maximum Contaminant Level for chromium and lead, the 1988 report concluded that these metals are not site related and that groundwater under the Stephens Substation did not appear to be contaminated with PCBs, VOCs, or heavy metals as a result of past activities at the site; see the document (Q15_1988-05-09_Station L GW Report.pdf) attached in response to Question 15.	See Question 15 Attachments Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf Q15_1988-05-09_Station L GW Report.pdf Q15_1992-07_Phase III_GW Invest WP.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf
66. Have you treated, pumped, or taken any kind of response action on groundwater under your Property? Unless the answer to the preceding question is anything besides an unequivocal "no", identify:	Although groundwater sampling was conducted during the late 1986-1988 site investigation and the 1992/1993 Station L environmental investigation, to the best of PGE's knowledge, after reasonable inquiry, PGE has not treated, pumped, or taken any kind of response action on groundwater under the Stephens Substation.	
a. reason for groundwater action;		
b. whether the groundwater contained hazardous substances, pollutants or ~~contaminants, including petroleum,~~ what constituents the groundwater contained, and why the groundwater contained such		

EPA Question	Response	Records/Information Available
constituents; c. all analyses or tests and results of analyses of the groundwater; d. if the groundwater action has been completed, describe the basis for ending the groundwater action; and e. all persons, including contractors, with information about (a) through (c) of this request.		
67. Was there ever a spill, leak, release or discharge of a hazardous substance, waste, or material into the Willamette River from any equipment, structure, or activity occurring on, over, or adjacent to the river? If the answer to the preceding question is anything but an unqualified "no", identify: a. the nature of the hazardous substance, waste, or material spilled, leaked, released or discharged; b. the dates of each such occurrence; c. the amount and location of such release; d. were sheens on the river created by the release; e. was there ever a need to remove or dredge any solid waste, bulk product, or other material from the river as a result of the release? If so, please provide information and description of when such removal/dredging occurred, why, and where the removed/dredged materials were disposed.	To the best of PGE's knowledge, after reasonable inquiry, no. The Stephens Substation is not on, over, or directly adjacent to the Willamette River and there are no over-water structures. To the best of PGE's knowledge, after reasonable inquiry, there has never been a spill, leak, release, or discharge of a hazardous substance, waste, or material into the Willamette River from any equipment, structure, or activity occurring on, over, or adjacent to the river at Stephens Substation.	
68. For any releases or threatened releases of PCB(s), identify the date, quantity, location and type of PCB(s) or	In general, PGE replaces PCB-containing or potentially PCB-containing equipment (e.g., transformers, capacitors, lamp ballasts, circuit breakers, bushings, and step regulators) with non-PCB oil containing equipment (< 50 ppm PCBs) as they are removed from service. The primary materials that may have been used for equipment maintenance include dielectric fluids	

EPA Question	Response	Records/Information Available
PCB(s) containing materials or liquids, and the nature of any response to or cleanup of the release.	(oil) and transformer oil, which may have historically contained PCBs. To the best of PGE's knowledge, after reasonable inquiry, other than minor repairs, electrical equipment maintenance was generally not performed on site. Instead, equipment was taken out of service and transported to PGE's waste and material handling facility for repairs and retrofitting. See the document (Q21a_2008_Oil Filled Equipment.xls) attached in response to Question 21a for the list of oil-filled equipment at Stephens Substation. The document identifies the position of the oil-filled equipment, the serial number of the equipment, the year manufactured, the detected PCB concentrations, and the date tested for PCBs, and the total volume of oil. Several of the oil-filled equipment listed in the document are assumed to contain less than 1 ppm PCBs because they were manufactured after 1978. The documents (Q21a_1984 Capacitor Report.pdf, Q21a_1985-01-17_Oil Filled Equipment.pdf, Q21a_1986-11-07_Oil Filled Equipment.pdf, and Q21a_1996 Oil Filled Equipment.pdf) attached in response to Question 21a describe PGE's oil-filled equipment at Stephens Substation in 1985, 1986, and 1992. Other oil-filled equipment transportation and disposal documents, including drained oil, include: • The documents (Q21a_1991-03_Capacitor Transport.pdf, Q21a_1991-03_CT-PT Transport.pdf, Q21a_1991-04_Capacitor Transport.pdf, Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf, Q21a_1992-04_Transformer Transport.pdf, and Q21a_1993-09_Capacitor Transport.pdf) attached in response to Question 21 are general transport documents for non-leaking capacitors (oil-filled capacitors) removed from the Stephens Substation between 1991 and 1993. To the best of PGE's knowledge, after reasonable inquiry and based on the transportation documents, all of these obsolete capacitors were transported to Sellwood Substation (a waste and materials handling facility) for interim storage. These documents indicated that at least some of the capacitors were subsequently transported to General Electric for disposal. • The document (Q21a_1994 Haz Waste Manft.pdf) attached to Question 21a includes the hazardous waste manifests for the disposal of PCB-containing oil. This waste was transported by PGE to General Electric Company. • The document (Q21a_1998-10-08_Drained Oil Lab Results.pdf) attached to Question 21a records the status and PCB concentration of three transformers formerly at Stephens Substation. Containing oil with PCB concentrations between 3 and 75 ppm, these transformers were drained (around 1999) and sold or junked. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing oil was likely recycled or incinerated at Transformer Technologies, Clean Harbors Deer Park, or Environmental Management of KC Inc. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the drained equipment was likely recycled at Coleman Metals or disposed of at Arlington Landfill. • The document (Q21a_2002-3-35_Bushings Lab Results.pdf) attached in response to Question 21a indicates that Coleman Metals picked up drained bushings from Sellwood and Stephens Substations on 6 April 2002. According to the provided laboratory reports, these bushings did not have detectable PBC concentrations.	See all Question 62 Attachments Also see Question 15 Attachments Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 21 Attachments Q21a_Waste Stream Summary.pdf Q21a_2008_Oil Filled Equipment.xls Q21a_1984 Capacitor Report.pdf Q21a_1985-01-17_Oil Filled Equipment.pdf Q21a_1986-11-07_Oil Filled Equipment.pdf Q21a_1996 Oil Filled Equipment.pdf Q21a_1998-10-08_Drained Oil Lab Results.pdf Q21a_2002-3-35_Bushings Lab Results.pdf Q21a_1991-03_Capacitor Transport.pdf Q21a_1991-03_CT-PT Transport.pdf Q21a_1991-04_Capacitor Transport.pdf Q21a_1992-04_Transformer Transport and Haz Waste Manifest.pdf Q21a_1992-04_Transformer Transport.pdf Q21a_1993-09_Capacitor Transport.pdf Q21a_1987 Haz Waste Manfts.pdf Q21a_1994 Haz Waste Manft.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2004-08-13_Disposal Permit and Profile.pdf Q21a_2005 Haz Waste Manft Lqd.pdf Q21a_2005 Haz Waste Manft Solid.pdf

EPA Question	Response	Records/Information Available
	• The document (Q21a_2005 Haz Waste Manft Lqd.pdf) attached in response to Question 21a includes the hazardous waste manifest for the disposal of approximately 2,800 kg of oil containing 50 to 499 ppm of PCBs from the Stephens Substation in July/August 2005. This oil was transported by Univar USA Inc to Onyx Environmental Services where it was incinerated. To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the known remediation activities conducted at the Stephens Substation associated with the known releases of PCB-containing oil: • April 1 or 7, 1981 – A capacitor spilled approximately 1 gallon of PCB-containing oil onto gravel and soil. PGE personnel reported, contained, and cleaned up the spill. See the documents (Q62_04-07-1981_Spill Report.pdf and Q62_Spill Database List_Stephens.pdf) attached in response to Question 62. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached to Question 21, the PCB-containing soil/gravel was likely disposed of at the Arlington Landfill after interim storage at the Sellwood Substation (a PGE waste and material handling facility). • 1986/1987 – During the site investigation of the western third of Stephens Substation, PCB-containing soil and asphalt were discovered around the equipment. In late 1987, approximately 180 tons of material (soil and asphalt) were removed and disposed of at Arlington Landfill. For further information, see the document (Q21a_1987 Haz Waste Manfts.pdf) attached in response to Question 21a, the documents (Q62_1987-07 Excavation Daily Reports.pdf and Q62_1987-08-20 Excavation Daily Report.pdf) attached in response to Question 62, and the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf) attached in response to Question 15. • 1992 – During the site investigation of the eastern two-thirds of Stephens Substation (switchyard and side yard), PCB-containing soil was discovered around the equipment in the side yard. Approximately 20 cubic yards of PCB-containing soil were removed and disposed of at Arlington Landfill. Appendix H in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data). • July 30, 2002 – A regulator spilled approximately 2 gallons of oil containing 21 ppm of PCBs onto concrete and gravel. PGE personnel cleaned up the spill by cleaning the concrete and removing approximately 0.5 cubic yards of gravel. See the document (Q62_2002-7-30_Spill Report.pdf) attached in response to Question 62. The gravel was transferred to Wilsonville for interim storage prior to disposal. To the best of PGE's knowledge, after reasonable inquiry and based on the documents (Q21a_2002 NonHaz WAL & Profile.pdf and Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing gravel was likely disposed of at the Columbia Ridge Landfill in August 2002.	

EPA Question	Response	Records/Information Available
	• July 22, 2005 – Univar picked up and transported approximately 21 kilograms of PCB-containing soil and debris (> 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC. See the document (Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. Construction activities that involved the excavation of soils that were found to contain low concentrations of PCBs from an unknown source include: • April 1998 – Columbia Ridge Landfill approved PGE's request to dispose of approximately 20 cubic yards of soil and debris containing 0.4 ppm PCBs which were removed in order to pour footings for new equipment at Stephens Substation. See the document (Q21a_1998-04-30_Waste Approval.pdf) attached in response to Question 21a. • August 1998 – PGE requested permission to dispose of approximately 100 cubic yards or 150 tons of soil and debris containing 0.4 ppm PCBs. See the document (Q21a_1998-08-19_Waste Approval Request.pdf) attached in response to Question 21a. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing soil/gravel was likely disposed of at the Hillsboro Landfill or Columbia Ridge Landfill after interim storage at a PGE waste and material handling facility. • August to November 2004 – PGE received a permit to dispose of up to 100 tons of soil, gravel, and miscellaneous debris containing 0.116 to 1.37 ppm PCBs at Hillsboro Landfill. This material was generated by construction work at Stephens Substation. See the document (Q21a_2004-08-13_Disposal Permit and Profile.pdf) attached in response to Question 21a. See the responses to Questions 15, 21, 47, and 62. Also see the annual PCB reports (1978-2008) for PGE (all PGE sites combined), which are provided in a supplemental submittal (Supplemental Submittal S3).	
69. For any releases or threatened releases of PCB(s) and/or PCB(s) containing materials or liquids, identify and provide copies of any documents regarding the quantity and type of waste generated as a result of the release or threatened release, the disposition of the waste, provide any reports or records relating to the release or threatened release, the response or cleanup and any records relating to any enforcement proceeding relating to the release or threatened release. Provide all	See the responses to Questions 62 and 68.	

EPA Question	Response	Records/Information Available
documentation regarding, but not limited to, the following releases:		
a. a May 20, 1988 release of 20 gallons of 400 parts per million PCB transformer oil; b. a February 9, 1995 release of 5 gallons of oil that spilled from a bushing on the ground; c. a February 24, 1997 release of 20 gallons of 19 parts per million PCB transformer oil onto the ground, and; d. a July 25, 1997 release of 3 gallons of less than 5 parts per million PCB oil from a break on the ground, and;. e. a December 4, 1997 release of 40 gallons of cable oil onto the ground following vandalism at the Harborton substation.	Not applicable. Questions 69a through 69e are not relevant to the Stephens Substation. Information regarding these investigations is provided in the 104(e) response for the Harborton Substation.	
Section 7.0 - Property Investigations		
70. Provide information and documentation concerning all inspections, evaluations, safety audits, correspondence and any other documents associated with the conditions, practices, and/or procedures at the Property concerning insurance issues or insurance coverage matters.	To the best of PGE's knowledge, after reasonable inquiry, PGE has no records of insurance issues or coverage related to health and safety inspections, evaluations, audits or correspondence for this location. The attached document relates to general fire, flood, wind and earthquake inspections. An engineer from PGE's office of Facilities Management (FM) conducts several inspections a year at most PGE locations. The engineer will do a complete walk through each facility looking for fire hazards and will issue a recommendation when a problem is found. Along with these inspections, the fire protection systems and equipment are checked and usually functionally tested. There are locations that are inspected by FM which do not require the issuing of an inspection report. These locations are small substations where there are only pressure vessels located on the system circuit breakers. This inspection is required by the State of Oregon. Following the inspection, the inspector will send his report to the State so they can keep up to date on the condition of PGE pressure vessels. Copies of PGE's relevant general liability insurance policies are provided in a supplemental submittal (Supplemental Submittal S4).	Question 70 Attachments Q70_FM Global Substation Review.pdf
71. Describe the purpose for, the date of initiation and completion, and the results of any investigations of soil, water	To the best of PGE's knowledge, after reasonable inquiry, the following summarizes the reports, information, or data PGE has related to soil, water (ground and surface), or air quality and geology/hydrogeology at Stephens Substation:	

EPA Question	Response	Records/Information Available
(ground or surface), sediment, geology, and hydrology or air quality on or about each Property, Provide copies of all data, reports, and other documents that were generated by you or a consultant, or a federal or state regulatory agency related to the investigations that are described.	After the retirement of the Station L power plant in 1975, PGE considered upgrading the Station L property for commercial use, including philanthropic donation of the property. In 1986, PGE began an assessment of the uplands portion of the Station L property to support possible property upgrades, including the western portion of Stephens Substation. • In 1986/1987, OMNI Environmental Services Inc, on behalf of PGE, completed soil and asphalt sampling in the western third of the Stephens Substation; see the documents (Q15_1986 Analytical Report for OMNI Report.pdf, Q15_1987-01-20 Sample Location Map.pdf, Q15_1987-03-06_OMNI Sampling Report.pdf, Q15_1987-05-14 Sample Location Map.pdf, Q15_1987-06-05_OMNI Report 3 - Sampling Program.pdf, Q15_1987-07-06_Vol PCB Cleanup Plan.pdf, Q15_1987-07 PCB Results.pdf, and Q15_1987-07 PCB Results 2.pdf, Q15_1987-08-19 Sta L Excavation of Contaminated Soils.pdf, and Q15_1987-09-11_OMNI Report 5 - Sampling Program.pdf) attached in response to Question 15. Monitoring well W-3 was installed in 1987 by Sweet Edwards/EMCON, Inc. Soil and groundwater were sampled from test pit TP-8 and monitoring well W-3, respectively; see the documents (Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf and Q15_1988-05-09_Station L GW Report.pdf) attached in response to Question 15. • In late 1987, 180 ton of PCB and petroleum-hydrocarbon containing material (soil and asphalt was removed from the western third of Stephens Substation; see the documents (Q15_1987-12-31_Removal of PCB Cont Soils.pdf and Q15_1988-02-16_HartCrowser Status Letter.pdf) attached in response to Question 15. Also see the 1987 hazardous waste manifests (Q21a_1987_Haz Waste Manifests.pdf) attached in response to Question 21a. In 1987, PGE entered into the Voluntary Cleanup Program with the Oregon DEQ. PGE began further soil and sediment investigations under the cleanup program, including an evaluation of the eastern two thirds of the Stephens Substation (switchyard and side yard). In 1988, PGE entered into a three-phase consent order (DEQ ECSR-NWR-88-02) to identify the nature and extent of hazardous substances over the entire Station L property (addressed in a separate 104(e) response). Although PGE and DEQ did not consider the substation to be part of the Station L site, as defined in the 1988 Station L Consent Order, it was decided that information concerning the sampling and removal activities conducted in the Stephens Substation switchyard and side yard in conjunction with upgrades the stormwater control and secondary containment system would be provided in the Station L Phase III SIR. The portion of the Station L Phase III SIR that contains information concerning the Stephens Substation is (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15. The entire Station L Phase III SIR is included in the separate 104(e) response for Station L. The following summarizes the site investigations and remedial actions at the Stephens Substation switchyard and side yard: • Section 2 of the Station L Phase III SIR includes information on local	See Question 15 Attachments Q15_1986 Analytical Report for OMNI Report.pdf Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf Q15_1987-03-06_OMNI Sampling Report.pdf Q15_1987-05-14 Sample Location Map.pdf Q15_1987-06-05_OMNI Report 3 - Sampling Program.pdf Q15_1987-07-06_Vol PCB Cleanup Plan.pdf Q15_1987-07 PCB Results 2.pdf Q15_1987-07 PCB Results.pdf Q15_1987-08-19 Sta L Excavation of Contaminated Soils.pdf Q15_1987-09-11_OMNI Report 5 - Sampling Program.pdf Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1988-02-16_HartCrowser Status Letter.pdf Q15_1988-05-09_Station L GW Report.pdf Q15_1992-07_Phase III_GW Invest WP.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Q15_1998-04-21_OAL.pdf Q15_2004-01-14_NCA.pdf Q15_2004-01-22_NCA.pdf Q15_2004-08-04_NCA.pdf Q15_2006-09-12_TestAmerica.pdf Also see Question 21 Attachment Q21a_1987_Haz Waste Manifests.pdf Also see Question 19 Attachments Q19_2002_SPCC Plan.pdf Q19_1980_Station L include Stephens SPCC Plan.pdf Q19_ SPCC_Figure.pdf (CEII[1]) Also see all Question 62 Attachments

[1] Attachment located on the Confidential Critical Energy Infrastructure Information (CEII) CD

EPA Question	Response	Records/Information Available
	geology/hydrogeology, including the Stephens Substation. • Sections 3 and 4 of the Station L Phase III SIR presents further information concerning the previous site investigations, including the 1986 and 1987 investigations and remediation in the western third of Stephens Substation. • Soil testing was conducted at the Stephens Substation switchyard and side yard (eastern two-thirds of Stephens Substation) in late 1991. Appendix A of the Station L Phase III SIR presents the PCB Sampling Location Map, Appendix H presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including analytical data), and Appendix I presents the Technical Memorandum for Stephens Substation Switch Yard Soil Investigation (including analytical data). • Monitoring well W-3 was accidentally damaged sometime before November 1990 during OMSI construction activities. CH2M Hill abandoned monitoring well W-3 in 1991. Monitoring well W-7 was installed in 1992 by CH2M Hill to replace monitoring well W-3. Monitoring well W-7 was sampled to provide upgradient groundwater information for the ongoing Station L site investigation. Appendix B of the Station L Phase III SIR presents the monitoring well W-3 abandonment documents, Appendix C presents the Slug Test Data and Analysis for Monitoring Wells (monitoring well W-7), Appendix G presents the Geologic Logs and Well Construction Diagrams for Original and New Monitoring Wells (monitoring wells W-3 and W-7), and Appendix M presents the Phase III Groundwater Investigation Laboratory Analytical Data (monitoring wells W-3 and W-7). Also see the groundwater investigation work plan (Q15_1992-07_Phase III_GW Invest WP.pdf) attached in response to Question 15. Testing of soil and equipment has been conducted, as needed, in conjunction with various improvements and maintenance activities at the Site, as well as in response to equipment spills. The available soil and equipment oil data from various improvements, maintenance activities, and spills (Q15_1998-04-21_OAL.pdf, Q15_2004-01-14_NCA.pdf, Q15_2004-01-22_NCA.pdf, Q15_2004-08-04_NCA.pdf, and Q15_2006-09-12_TestAmerica.pdf) are attached in response to Question 15. For information regarding the disposal of wastes and materials, see the response to Question 21. Also see the spill reports attached in response to Question 62. The SPCC Plans (Q19_2002_SPCC Plan, Q19_SPCC_Figure.pdf and Q19_1980_Station L include Stephens SPCC Plan.pdf), attached in response to Question 19, briefly describe topography and soil conditions at Stephens Substation. To the best of PGE's knowledge, after reasonable inquiry, the attached documents include all the reports, information, and data PGE was able to locate for Stephens Substation related to soil, water (ground and surface), or air quality and geology/hydrogeology.	
a. a May 20, 1988 release of 20 gallons of 400 parts per million PCB	Not applicable. Questions 71a through 71e are not relevant to the Stephens Substation. Information regarding these investigations is provided in the 104(e) response for the Harborton Substation.	

EPA Question	Response	Records/Information Available
transformer oil; b. a February 9, 1995 release of 5 gallons of oil that spilled from a bushing on the ground; c. a February 24, 1997 release of 20 gallons of 19 parts per million PCB transformer oil onto the ground, and; d. a July 25, 1997 release of 3 gallons of less than 5 parts per million PCB oil from a break on the ground, and;. e. a December 4, 1997 release of 40 gallons of cable oil onto the ground following vandalism at the Harborton substation.		
72. Describe any remediation or response actions you or your agents or consultants have ever taken on each Property either voluntarily or as required by any state or federal agency. If not otherwise already provided under this Information Request, provide copies of all investigations, risk assessments or risk: evaluations, feasibility studies, alternatives analysis, implementation plans, decision documents, monitoring plans, maintenance plans, completion reports, or other document concerning remediation or response actions taken on each Property.	To the best of PGE's knowledge, after reasonable inquiry, the following presents a summary of known remedial activities at the site: • April 1 or 7, 1981 – A capacitor spilled approximately 1 gallon of PCB-containing oil onto gravel and soil. PGE personnel reported, contained, and cleaned up the spill. See the documents (Q62_04-07-1981_Spill Report.pdf and Q62_Spill Database List_Stephens.pdf) attached in response to Question 62. To the best of PGE's knowledge, after reasonable inquiry and based on the document (Q21a_Waste Stream Summary.pdf) attached to Question 21, the PCB-containing soil/gravel was likely disposed of at the Arlington Landfill after interim storage at the Sellwood Substation (a PGE waste and material handling facility). • 1986/1987 – During the site investigation of the western third of Stephens Substation, PCB-containing soil and asphalt were discovered around the equipment. In late 1987, approximately 180 tons of material (soil and asphalt) were removed and disposed of at Arlington Landfill. For further information, see the document (Q21a_1987 Haz Waste Manfts.pdf) attached in response to Question 21a, the documents (Q62_1987-07 Excavation Daily Reports.pdf and Q62_1987-08-20 Excavation Daily Report.pdf) attached in response to Question 62, and the document (Q15_1987-12-31_Removal of PCB Cont Soils.pdf) attached in response to Question 15. • 1992 – During the site investigation of the eastern two-thirds of Stephens Substation (switchyard and side yard), PCB-containing soil was discovered around the equipment in the side yard. Approximately 20 cubic yards of PCB-containing soil were removed and disposed of at Arlington Landfill. Appendix H in the document (Q15_1994-08_Phase III_SIR-Stephens.pdf) attached in response to Question 15, presents the Technical Memorandum for Stephens Substation Side Yard Soil Investigation and Removal (including	Question 72 Attachments Q72_1998_AsbestosSurvey.pdf Q72_2006_AsbestosSurvey.pdf Also see Question 15 Attachments Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see Question 21a Attachments Q21a_1987 Haz Waste Manfts.pdf Q21a_1998-04-30_Waste Approval.pdf Q21a_1998-08-19_Waste Approval Request.pdf Q21a_2002 NonHaz WAL & Profile.pdf Q21a_2005 Haz Waste Manft Solid.pdf Also see Question 62 Attachments Q62_Spill Database List_Stephens.pdf Q62_04-07-1981_Spill Report.pdf Q62_1987-07 Excavation Daily Reports.pdf Q62_1987-08-20 Excavation Daily Report.pdf Q62_2002-7-30_Spill Report.pdf

EPA Question	Response	Records/Information Available
	analytical data). • July 30, 2002 – A regulator spilled approximately 2 gallons of oil containing 21 ppm of PCBs onto concrete and gravel. PGE personnel cleaned up the spill by cleaning the concrete and removing approximately 0.5 cubic yards of gravel. See the document (Q62_2002-7-30_Spill Report.pdf) attached in response to Question 62. The gravel was transferred to Wilsonville for interim storage prior to disposal. To the best of PGE's knowledge, after reasonable inquiry and based on the documents (Q21a_2002 NonHaz WAL & Profile.pdf and Q21a_Waste Stream Summary.pdf) attached in response to Question 21a, the PCB-containing gravel was likely disposed of at the Columbia Ridge Landfill in August 2002. • July 22, 2005 – Univar picked up and transported approximately 21 kilograms of PCB-containing soil and debris (> 50 ppm PCBs) from Stephens Substation to the Arlington Landfill, after interim storage at PSC. See the document (Q21a_2005 Haz Waste Manft Solid.pdf) attached in response to Question 21a. In addition, the attached documents (Q72_1998_AsbestosSurvey.pdf and Q72_2006_AsbestosSurvey.pdf) contain information on the asbestos surveys conducted at the Stephens Substation. Both surveys identified asbestos containing materials the Stephens control house. To the best of PGE's knowledge, after reasonable inquiry, no remedial action has been taken concerning asbestos.	
73. Are you or your consultants planning to perform any investigations of the soil, water (ground or surface), geology, and hydrology or air quality on or about the Property? If so, identify: a. what the nature and scope of these investigations will be; b. the contractors or other persons that will undertake these investigations; c. the purpose of the investigations; d. the dates when such investigations will take place and be completed; and e. where on the Property such investigations will take place.	No future investigations for the Stephens Substation are planned. Soil confirmation sampling may be conducted in the future, after cleanup of small spill events and general operational activities (e.g., removal, updates, maintenance) on an as needed basis.	
Section 8.0 - Corporate Information		
74. Provide the following information, when applicable, about you and/or your business(es) that are associated with each Property identified in response to	Responses and documents for Section 8.0 – Corporate Information for all PGE sites are provided in a supplemental submittal (Supplemental Submittal S1).	

EPA Question	Response	Records/Information Available
Question 4: a. state the current legal ownership structure (e.g.. corporation, sole proprietorship); b. state the names and current addresses of all current and past owners of the business entity or, if a corporation, current and past officers and directors; c. discuss all changes in the business' legal ownership structure, including any corporate successorship, since the inception of the business entity. For example, a business that starts as a sole proprietorship, but then incorporates after a few years, or a business that is subsequently acquired by and merged into a successor. Please include the dates and the names of all parties involved; d. the names and addresses of all current or past business entities or subsidiaries in which you or your business has or had an interest that have had any operational or ownership connection with the Properties identified in response to Question 4. Briefly describe the business activities of each such identified business entities or subsidiaries; and e. if your- business formerly owned or operated a Property identified in response to Question 4, describe any arrangements made with successor owners or operators regarding liability for environmental contamination or property damage.		

EPA Question	Response	Records/Information Available
75. List all names under which your company or business has ever operated and has ever been incorporated. For each name, provide the following information:		
a. whether the company or business continues to exist, indicating the date and means by which it ceased operations (e.g., dissolution, bankruptcy, sale) if it is no longer in business;		
b. names, addresses, and telephone numbers of all registered agents, officers and operations management personnel; and		
c. names, addresses, and telephone numbers of all subsidiaries, unincorporated divisions or operating units, affiliates, and parent corporations if any, of the Respondent.		
d. all information requested in (a) through (c) above regarding, but not limited to, the following entities and including their relationship to Respondent (e.g. whether these entities are business partners, separate entities, subsidiaries, and/or aliases etc. of Respondent):		
i. V & K Service, Inc.; and		
ii. Jinkz Corp.		
76. Provide all copies of the Respondent's authority to do business in Oregon. Include all authorizations, withdrawals, suspensions and reinstatements.		

EPA Question	Response	Records/Information Available
77. If Respondent is, or was at any time, a subsidiary of, otherwise owned or controlled by, or otherwise affiliated with another corporation or entity, then describe the full nature of each such corporate relationship, including but not limited to:		
a. a general statement of the nature of relationship, indicating whether or not the affiliated entity had, or exercised, any degree of control over the daily operations or decision-making of the Respondent's business operations at the Site;		
b. the dates such relationship existed;		
c. the percentage of ownership of Respondent that is held by such other entity(ies);		
d. for each such affiliated entity provide the names and complete addresses of its parent, subsidiary, and otherwise affiliated entities, as well as the names and addresses of each such affiliated entity's officers, directors, partners, trustees, beneficiaries, and/or shareholders owning more than five percent of that affiliated entity's stock;		
e. provide any and all insurance policies for such affiliated entity(ies) which may possibly cover the liabilities of the Respondent at each Property; and		
f. provide any and all corporate financial information of such affiliated entities, including but not limited to total revenue or total sales, net income, depreciation, total assets and total current assets, total liabilities and total current liabilities, net working capital (or net current assets), and net worth.		

EPA Question	Response	Records/Information Available
g. all information requested in (a) through (f) above regarding, if applicable, but also explain any corporate or financial relationship Respondent may have had or has with the Enron Corporation.		
78. If Respondent is a partnership, please describe the partnership and provide a history of the partnership's existence. Provide a list of all current and past partners of any status (e.g., general, limited, etc.) and provide copies of all documents that created, govern, and otherwise rules the partnership, including any amendments or modifications to any of the originals of such documents, and at least five years of partnership meeting minutes.		
Section 9.0 - Compliance With This Request		
79. Describe all sources reviewed or consulted in responding to this request, including, but not limited to:		
a. the name and current job title of all individuals consulted;	Ron Parr, Facility Management Supervisor Bob Millican, Facility Management Specialist Randy Nicolay, Facility Management Specialist Dave VanBossuyt; Distribution Administration Manager Mark Cooksey, IT Client Services Manager Laura Holgate, Power Supply Eng Services Supervisor Jeddy Beasley, Transportation Services Manager Jayne Allen, Environmental Services Specialist Arya Behbehani-Divers, Environmental Services Manager Brandy Horn, Environmental Services Specialist Mike Livingston, Property Services Manager Tim Calhoun, Network Communications Supervisor – retired Mike Schwartz, Power Supply Eng Services General Manager Rand Sherwood, Utility Services Manager Tom Stodd, Environmental Services Specialist Bob Lazrine Special Tester Forman Sid Hiller – Manager Kristina Rodgers – Assistant Debby Klinger – Specialist	Question 79 Attachment: Q79_PdxHarbor Contact Information Rev.doc

EPA Question	Response	Records/Information Available
	Chuck McCartney – Specialist Alma McGloghlon – Analyst Larry Morgan – Supervisor Gwen Williams - Manager In addition, the attached document contains additional sources consulted for responses to selected questions.	
b. the location where all sources reviewed are currently reside; and	PGE's Office at: 121 SW Salmon, 1WTC1302, Portland, Oregon 97204. Records are contained in the Facilities Management Departments, the Human Resources Department, and in the Corporate Records Information System (CRIS) database. In addition, the Hawthorne Retiree Museum contains the following: • The History of Portland General Electric Company, 1889 - 1981 • Electrifying Eden by Craig Wollner The History of Portland General Electric Company, 1989 - 1981 is attached in response to Question 77, which is part of the Supplemental Submittal S1. A hardcopy of Electrifying Eden was provided in a separate submittal.	
c. the date consulted.	Work on this information request was performed from February 2008 through August 2009.	
80. If not already provided, identify and provide a last known address or phone number for all persons, including Respondent's current and former employees or agents, other than attorneys, who have knowledge or information about the generation, use, purchase, storage, disposal, placement, or other handling of hazardous materials at, or transportation of hazardous substances, waste, or materials to or from each Property identified in response to Question 4.	Stephens Substation is an unmanned substation, requiring only periodic maintenance and monthly inspections. See responses and documents for Questions 2, 6, 15, 21, 38, 40, and 79.	See all Question 6 Attachments Also see Question 15 Attachments Q15_1987-03-06_OMNI Sampling Report.pdf Q15_1987-06-05_OMNI Report 3 - Sampling Program.pdf Q15_1987-12-31_Removal of PCB Cont Soils.pdf Q15_1988-01-21_HartCrowser Soil-GW Quality Assess.pdf Q15_1988-02-16_HartCrowser Status Letter.pdf Q15_1988-05-09_Station L GW Report.pdf Q15_1992-07_Phase III_GW Invest WP.pdf Q15_1994-08_Phase III_SIR-Stephens.pdf Also see all Question 21 Attachments Also see all Question 38 Attachments Also see Question 40 Attachment Q40_Waste-Materials Receivers and Carriers.pdf Also see Question 79 Attachment Q79_PdxHarbor Contact Information Rev.doc

EPA Question	Response	Records/Information Available
81. If any of the documents solicited in this information request are no longer available, please indicate the reason why they are no longer available. If the records were destroyed, provide us with the following;	PGE Records Management Services (RMS) provides a uniform records management program for the company. The program includes the Corporate Records Information System (CRIS) an online application used by departments to identify, index and manage their records. RMS also provides records storage and retrieval and document imaging services. RMS can investigate why records are no longer available if we know which records are being sought. Knowing the date, originator and subject of the records in question are essential to determine their availability or their ultimate disposition. Each unique record category is identified in CRIS and assigned a file pattern code (file category). Information about each file category includes the office of record (originator), and retention requirements and regulatory citations – who requires the record to be kept and for how long. The PGE records program and records retention schedule comply with the recordkeeping requirements of the Oregon Public Utility Commission (PUC) and Federal Energy Regulatory Commission (FERC). State and federal guidelines require us to identify which records PGE produces and how and for how long those records will be retained. PGE Policy requires that records should not be destroyed before, or kept after, meeting retention requirements. Consequently, PGE regularly destroys records in the normal course of business, and when legally required to do so. Such destructions are approved by the PGE Records Retention Committee and authenticated and recorded by RMS. How long a particular type of record is retained is based on operating needs, legal and regulatory requirements and, in a few cases, historical or archival value.	
a. the document retention policy between 1937 and the present;	RMS was created in 1977 and we can provide PGE's records management guidelines from 1977 to the present. Prior to that time records management was the responsibility of each functional area, plant or division office. Accounting records were kept in compliance with 18 CFR Part 125, Regulations to Govern the Preservation of Records of Public Utilities and Licensees (1972), issued by the Federal Power Commission (now FERC) and NARUC, the Nat'l Assoc. of Regulatory Utility Commissioners.	
b. the approximate date of destruction;	See response to Question 81a, above. Since it was established (c. 1977) RMS has maintained a hardcopy or microfilm record of boxes of records destroyed in the normal course of business, if those records were turned over to RMS custodianship. To know *when* a record was destroyed, it is necessary to know the record category, the approximate date of creation, and which department created it. It should be noted that the level of detail of information about the records destroyed is the same as that used to identify the records when they were sent to storage.	
c. a description of the type of information that would have been contained in the documents;	See response to Question 81b, above. RMS can help discern what records were typically filed in a particular file category. If similar records from that era exist they may show what information was captured by the documents. For example, a typical "job" form from 1980 would include much the same information listed on a similar job form from 1940, i.e., the work location, equipment used, labor hours, parts, drawings, etc.	
d. the name, job title and most current address known by you of the person(s) who would have produced these	RMS is responsible for all records sent to the records center from 1977 to present, including ultimate disposition of those records. Records of documents destroyed include the names of the originator, authorizations for destruction (signatures) and the name of the person who	

EPA Question	Response	Records/Information Available
documents; the person(s) who would have been responsible for the retention of these documents; the person(s) who would have been responsible for destroying the documents; and the person(s) who had and/or still have the originals or copies of these documents; and	physically destroyed or recycled the documents. Individual Responsibility Center (RC) managers are and would have been responsible for maintaining and disposing all other records, i.e., those that were not sent to the archives.	
e. the names and most current addresses of any person(s) who may possess documents relevant to this inquiry.	RMS can provide printed reports from the CRIS of existing records related to the request (that have been entered into CRIS by the originating RC). CRIS shows the names of all departments using the system for managing their records, what categories of records are maintained and where the records are filed (in the department or the records storage center). On request, RMS can provide a list of all RCs that use the CRIS system. This report would show each RC's file plan by document type (or subject) and the types of documents that should be filed under those headings.	
82. Provide a description of all records available to you that relate to all of the questions in this request, but which have not been included in your responses.	Multiple key word searches were performed in PGE's CRIS system. No date restrictions were placed on the searches. The results from each key word search were printed from the CRIS system with either a list of record titles or a "There are no entities to display" message. The "There are no entities to display" message means that based on the search query no records were found. Individual CRIS printouts are available upon request but provide no additional information. Documents not included in this request include: • Documents describing other PGE sites • PGE internal emails, correspondences, and documents not specifically relevant to these questions • Purchasing agreements/invoices/payment records for remediation and environmental consultants, laboratory analysis, and Oregon DEQ oversight costs • Cost proposals for remediation/environmental consultants • Health and Safety Plans for remedial activities • Two general information documents – Theory on Sand Berms and Theory on Oil Spill Containment Products • Documents determined to be Attorney-Client privileged, which are identified on the comprehensive privilege log that will be submitted with the final set of responses. • Duplicate documents/figures • Database of OSHA reportable accidents/injuries for PGE properties in Oregon	